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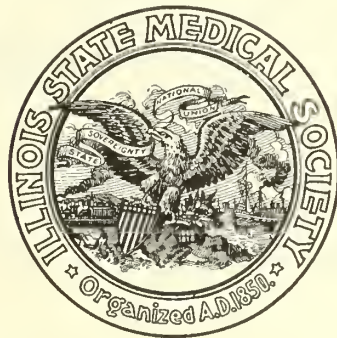
THE OFFICIAL ORGAN OF

The Illinois State Medical Society

PUBLISHED AT CHICAGO, ILL.

CLYDE D. PENCE, M. D., Editor

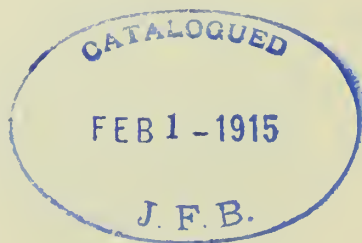
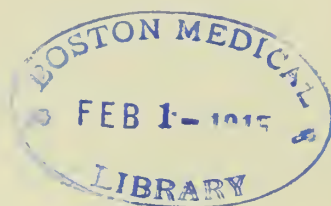
HENRY G. OHLS, M. D., Managing Editor



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JANUARY TO JUNE 1914





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January to June 1914

This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers are also included. Details of society proceedings, including the names of papers

read, officers elected, etc., can be located in the proceedings under Societies. Editorials, News of the State, Marriages, Deaths, Public Health Items are classified under these headings. The subjects of editorials also appear alphabetically and are marked (E).

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# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXV

CHICAGO, ILL., JANUARY, 1914

No. 1

## Original Articles

### A REPORT OF THE EXAMINATION OF THE EYES IN GENERAL PARALYSIS OF THE INSANE IN A SERIES OF FIFTY CASES.\*

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In general paralysis of the insane we have some definite and constant signs and symptoms which involve the eye, and the importance of these is further shown in that these may be the first symptoms of the disease to appear. As the affection is primarily a physical disease, the physical symptoms may be earlier and more constant than the mental, and these somatic signs may even precede the mental signs for as long a period of time as five years.

It is in just this class of cases, viz., in which the physical signs of the disease appear first, that changes in the eye become of extreme importance. Paretics in the early stages may often be considered mentally sound, and if the disease is not recognized and unless proper protection of the patient be made, the paretic, by reason of his mental and moral deterioration, may be guilty of serious errors in conduct, affecting his social and financial standing and resulting in grave danger to himself, family, friends or to others. How far-reaching these dangers may be depends entirely upon the position in life that he had attained, and as some of these patients occupy responsible positions in the financial and business world, it is easily seen the danger in which the associates of an individual, suffering from this disease, would be placed. Thus it becomes at once evident that the early recognition of the disease is of the utmost importance and an examination of the eyes may be the means by which the disease is first recognized.

In this series of cases there were 48 whites and two blacks. There were 36 males, whose ages ran from 24 to 57 years. The ages of the 14 females ranged from 24 to 52 years. Of course, it is admitted that this ratio of female paretics is too high in comparison with the statistics of most observers, but that is the proportion in which they occurred in this particular grouping.

In regard to the stage of the disease in which these cases were seen, there were eight patients in the prodromal stage, 25 patients in the active stage, and 14 patients of the demented type. There were three of the 50 cases in the class of tabo-paretics.

Only a glance at the immense literature on the subject is needed to show the conflicting reports made by the various observers of the eye changes in paresis. One reason for this is that scarcely no attention has been paid to the stage of the disease in which the symptoms were noted. Then again the cases of paresis complicated with tabes have not been excluded, and the tabetic eye symptoms have been counted in, as of those belonging to paresis, causing in this manner great variations in the statistics and making them practically useless.

Taking up the disturbances in the extrinsic musculature of the eye, involvement of the lid was shown in seven cases or 14 per cent. in which there was present a partial ptosis, and this symptom has been reported by various observers as occurring in from 5 to 12 per cent. Magnan noted an unilateral ptosis with a bilateral amblyopia four years before the development of the disease. Four of my 7 cases which showed

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Note—The majority of this series of cases were observed at the Peoria State Hospital for the Insane and were examined as they were admitted to the institution during the years 1909 to 1912. These constituted almost entirely the cases of general paralysis of the insane received at the hospital during the four years.

\*Read at the sixty-third annual meeting of the Illinois State Medical Society at Peoria, May 21, 1913. Eye, ear, nose and throat section.



paresis of the lid were in the second stage of the disease, two in the third stage, and one occurred in a tabo-paretic. None of the 8 patients in the prodromal stage showed any symptom of lid involvement. Blepharospasm (Raviart<sup>1</sup>) is mentioned as a symptom of paresis, but was not noted among my cases. It could be, however, of only slight, if any, diagnostic value.

The external muscles of the globe were affected in nine cases, there being either nystagmus or a jerking movement of the eye in four cases and a paralysis of single muscles in five cases. One case in which muscle palsy occurred was in the second stage of the disease, three occurred in cases in the third stage of the disease and one in a tabo-paretic. Nystagmus has also been observed by Marie as occurring twice in 300 cases and by Joffroy<sup>2</sup> five times among 227 patients.

The conjunctiva and cornea were normal in all of the cases, as was also the intraocular tension. Among French authors, Raviart and some others claim that the conjunctival reflex is often not normal in paresis, and that abnormalities of the cornea are not infrequent. I do not believe that either of these symptoms are of any importance.

We now come to the most important of the eye findings, viz., the pupil anomalies. Certain methods for examination of the eyes, and especially the pupil reflexes, should be followed in paresis, as in other diseases in which changes in the eye occur, so that statistics of different observers will agree. The method I employ is to have the patient sitting and looking directly forward across the partially darkened room. The reflexes are then determined with artificial light. A small electric light of not too strong an intensity, which can be switched on and off, at the observer's pleasure, will show the pupillary reactions instantly and any movement, however slight, can be detected. The sensory and consensual reactions are then determined. If the patient then be directed to look a little upward, the size and shape of the pupils are shown. Physiological conditions of the pupils must, of course, be considered. The age of the patient and the condition of the blood vessels of the iris have their effect. In the young the pupils are large and diminish in size as the individual grows older. The refraction of the eye also influences

the size of the pupils, they being large in the myopic and small in the hyperopic eye, because the former accommodates little and the latter accommodates greatly. Inequality of the pupil was recorded in 40 patients or a percentage of 80. It appears as an early symptom of the disease, but it has not the same significance, if the reflexes are normal. The right pupil was larger in 18 of these and the left in 22 cases. In this connection Foster once noticed an inequality of the pupils of one of his colleagues and remarked that he might go insane. Some time afterwards this man, who had never shown the slightest sign of any mental abnormality, entered an asylum, where he died after a few years.

One or both pupils were contracted in nine cases and in 13 cases the pupils were dilated. Inequality of the pupils is probably the first symptom that appears in the onset of general paralysis. In going over a great number of reports this symptom is shown in about 64 per cent. of the cases. Anisocoria was present in six of the 8 patients in the prodromal stage of the disease, 20 of the 25 patients in the active stage showed unequal pupils, and it was present in 11 of the 14 patients in the demented or third stage of the disease. It is a symptom of the first stage of general paralysis and has been found in that period of the disease by a great many observers.

(Rodiet,<sup>4</sup> Dubas, Pansier,<sup>3</sup> Holden.<sup>5</sup>) Opinions differ as to its worth, also (Hansell<sup>6</sup>) as it appears in other forms of mental disease and has been observed in anemia, exophthalmic goiter and occurs in 10 per cent. of healthy individuals. (Bach,<sup>8</sup> Welton.<sup>9</sup>)\* Its diagnostic value, however, is conceded by all.

There was a partial loss of light reflex in one or both eyes in 18 cases, and these 18 cases occurred in all three stages of the disease, six in the prodromal, seven in the second and five in the third stage.

The Argyll-Robertson phenomenon was found in 28 cases, or in 56 per cent. In only two cases was there normal light reflex of the pupils, and one of these, when re-examined eleven months later, showed a diminished light reflex in one eye and an Argyll-Robertson pupil in the other. The other case, although in the second stage of the disease, had normal light reflexes. A peculiar

\*Gordon,<sup>7</sup> in a recent publication, found inequality of the pupils in 50 of 59 cases in the early state of the disease, and he states that this symptom can be considered almost pathognomonic of paresis.

Sex	Stage of Disease	Age	Lids	Muscular Action	Equal	Unequal	Con-tracted	Dilated	Shape	Sensory Action	Consensual Action	Light Reaction	Convergence Reaction	Vision	Lens	Fundi
1 M	1st	33	Normal	Normal	Yes	R. larger	.....	Both	Normal	Absent	Present	Diminished	Present	Could not deter-	Normal	Normal
2 "	"	24	"	"	.....	R. larger	.....	.....	Both misshap-	"	Absent	Absent R., diminished L.	Lessened	20/20 each	"	Indentation of vein
3 "	"	32	"	"	Yes	.....	.....	.....	Normal	"	Partial loss	Diminished, both	Present	R. 15/70 each	"	Normal
4 "	"	44	"	"	.....	R. larger	.....	.....	L. misshapen	"	Present	Pres. at 1st Exam., Abs. later	"	R. 15/50, L. 15/70	"	"
5 "	"	53	"	"	.....	R. larger	.....	.....	Normal	Present	Diminished	Diminished, both	"	15/15 both	"	"
6 F	"	46	"	"	.....	L. larger	.....	.....	Both misshap-	Absent	Present	Absent L., diminished R.	"	15/30 both	"	Atrophy left
7 "	"	24	"	"	.....	.....	.....	.....	.....	Absent	Present	Absent L., diminished R.	"	15/20 each	"	"
8 "	"	36	"	"	.....	"	.....	.....	Normal	Present	"	Present at 1st Exam., absent 11 Mos. later in R.	"	13/100 each	"	Art. sclerosis
9 M	2nd	44	"	"	.....	R. larger	Left	Right	"	Absent	Absent	Absent L., diminished R.	"	P. L. both	"	Atrophy (simple) both
10 "	"	37	"	"	.....	.....	.....	.....	L. misshapen	"	"	Absent both	"	R. 15/20, L. 15/15	"	Normal
11 "	"	36	"	"	.....	L. larger	.....	Right	Both misshap-	"	Present	Diminished both	Absent	15/30 each	Opacity	Hyperemia disk
12 "	"	52	"	"	.....	R. larger	.....	Both	Normal	"	"	"	Present	R. 15/30, L. 15/60	nasal	Normal
13 "	"	54	"	"	.....	L. larger	.....	.....	Both misshap-	"	Absent	Absent	"	15/30 each	1/3 (L.)	"
14 "	"	40	Tenon	Nystagmoid movements	.....	.....	.....	.....	Normal	Present	Absent	Diminished both	Absent	R. 15/50, L. 15/60	Normal	Indentation of vein
15 "	"	40	Normal	Normal	Yes	L. larger	Both	.....	R. misshapen	"	Present	Diminished both	"	15/20 each	"	Normal
16 "	"	40	Paresis	Paresis R. Int. Rect.	.....	.....	.....	.....	R. misshapen	Absent	Absent	Absent	"	15/20 each	"	Atrophy (simple)
17 "	"	45	Normal	Normal	.....	"	.....	Both	Normal	"	Absent	Diminished both	"	R. P. L.—L. 20/100	"	Normal
18 "	"	45	Normal	Normal	Yes	.....	.....	.....	R. misshapen	"	Present	Diminished both	"	15/15 both	"	Normal
19 "	"	47	"	"	.....	R. larger	.....	.....	Both misshap-	"	Absent	Diminished both	"	Could not deter-	"	Pallor R. disk
20 "	"	43	Paresis	"	.....	L. larger	Both	.....	Both misshap-	"	"	Diminished both	"	R. 15/20, L. 15/30	"	Normal
21 "	"	55	Normal	"	.....	L. larger	.....	.....	Normal	"	Present	Absent	"	R. 15/50, L. 15/20	"	Hyperemia disk
22 "	"	44	Normal	"	.....	.....	.....	Both	"	"	Absent	Absent	Diminished	15/80 both	"	Beading—tortuosity, indentation
23 "	"	53	"	"	.....	"	.....	.....	"	"	Present	Diminished both	Present	6/10 each	"	Normal
24 "	"	48	Paresis	"	.....	"	.....	Left	L. misshapen	"	Present in R.	Diminished both	"	15/20 both	"	Choroiditis (R.)
25 "	"	33	Normal	"	.....	"	.....	Left	Both misshap-	"	Absent in L.	Absent	"	R. 15/30, L. 15/70	"	Tortuosity veins
26 "	"	51	Normal	"	.....	"	.....	.....	Normal	"	"	"	Dim. both	15/15 both	"	Pallor R., L. Atrophy (neutric)
27 "	"	31	"	"	Yes	L. larger	Both	Both	"	"	"	"	Present	P. L. both	"	Normal
28 "	"	54	"	"	.....	.....	.....	.....	L. misshapen	Present	"	Absent both	"	15/30 both	"	Atrophy (both)
29 F	"	40	"	"	.....	.....	.....	.....	Normal	Absent	Present	Normal (hippus)	Dim. both	Excited—could not determine	"	Normal
30 "	"	50	"	"	Yes	R. larger	.....	.....	Both misshap-	Absent	Absent	Absent	Present	Demented	"	"
31 "	"	28	Normal	"	.....	L. larger	.....	.....	"	"	"	"	"	15/30 each	"	Pallor L. disk
32 "	"	37	Paresis	"	.....	.....	Both	.....	Normal	"	"	"	"	Could not deter-	"	Normal
33 "	"	38	Tenon	"	.....	R. larger	.....	.....	Both misshap-	"	"	"	"	mine	"	"
34 M	3rd	47	Normal	"	.....	L. larger	.....	.....	Both misshap-	"	"	"	"	15/100 each	"	Atrophy (neutric) both
35 "	"	57	Paresis (L)	"	.....	.....	Both	.....	Normal	"	"	"	"	Could not deter-	"	Atrophy both
36 "	"	37	Normal	"	Yes	.....	"	.....	"	"	"	"	"	mine	"	"
37 "	"	33	"	Paral. Ext. Rect. (L)	.....	Yes	.....	Both	"	"	"	"	"	P. L. both	"	Normal
38 "	"	44	"	Nystagmoid Paral. Int. Rect. (L)	.....	.....	.....	.....	"	"	"	"	"	Blind	"	"
39 "	"	34	"	Normal	.....	R. larger	Left	Right	R. misshapen	"	"	"	Present	R. 15/30, L. 15/70	"	Normal
40 "	"	38	Paresis	"	.....	L. larger	.....	.....	Normal	"	"	"	"	Could not deter-	"	"
41 F	"	52	Normal	Paral. Int. Rect. (R)	.....	R. larger	.....	Both	R. misshapen	"	"	"	Present R., Absent L.	R. 15/40, L. 15/30	"	Atrophy (left)
42 "	"	39	"	Normal	Yes	.....	.....	.....	Normal	Present	Present	Diminished both	Present	15/50 each	"	Choroiditis (left)
43 "	"	26	"	"	.....	.....	.....	.....	L. misshapen	Absent	Absent	Diminished both	"	Demented	"	Normal
44 "	"	54	"	"	.....	R. larger	.....	.....	R. misshapen	"	Present	Diminished both	"	15/30 each	"	Hyperemia disk
45 "	"	52	"	"	.....	L. larger	.....	.....	Both misshap-	"	Diminished	Diminished L.	Pres. at first, absent later	R. 15/200, L. 15/100	"	Art. sclerosis
46 "	"	26	"	"	Yes	L. larger	.....	.....	Both misshap	"	Absent	Absent	Absent	Demented	"	L. atrophy
47 "	"	48	"	"	.....	R. larger	Left	.....	Normal	"	"	"	Dim. R.	15/70 each	"	Normal
48 M	Tabo-Paretic	39	"	Paresis (L) Int. Rect.	Yes	.....	Both	.....	Both misshap-	"	"	"	Present	15/20 each	"	"
49 "	"	48	Paresis both	Nystagmoid movements	.....	R. larger	.....	.....	"	"	"	"	"	15/30 each	"	Pallor disk (both)
50 "	"	48	"	"	.....	.....	.....	.....	"	"	"	"	"	.....	"	"



condition, however, was noted in these two cases in that each showed the symptom called hippus, in which after the light was thrown on the eyes, there occurred a marked dilation of both pupils, and then with a series of oscillations the pupils would gradually contract to the size when first seen. Taking the cases of partial loss of light reflex and those presenting the Argyll-Robertson pupil, we have, then, changes in light reflex affecting 88 per cent. of these patients. Marandon de Montyle<sup>10</sup> maintains that the Argyll-Robertson pupil is always present at some stage of the disease.

The statistics of loss of light reflex vary from 26 to 100 per cent. This great variation may be explained in that we do not agree in making up statistics as to what should be included. Some observers only report the cases in which the typical Argyll-Robertson sign is present, while others include, together with these, the cases in which the light reflex is only reduced or partially lost, while again others include cases in which both light and convergence reactions are absent. The typical Argyll-Robertson pupil is the condition in which the direct and consensual light reflexes are abolished, but in which the associated movements of accommodation and convergence are retained. The occurrence of the Argyll-Robertson pupil always means organic disease.

In reporting pupillary changes for statistics the cases presenting diminished light reaction should be included, as well as the typical Argyll-Robertson phenomenon.

The symptom of loss of light reflex is a most important one, as it may be the first symptom of paresis to appear and may precede the development of other symptoms by many years. Once the symptom is present, in only very few instances has it been reported to have returned, and in none of the cases in my series did I see, after its having been abolished, a re-establishment of the light reflex. In my series, the cases with the Argyll-Robertson pupil occurred in all three stages of the disease. In 6 of the 8 cases in the prodromal stage it was present, in 14 of the patients in the second, and in 7 in the terminal stage. This would show that the Argyll-Robertson pupil is an early symptom, and also that it is seen in a considerable proportion of cases throughout the whole course of the dis-

case. It occurred in all three of the patients in the class of tabo-paretics.

A partial or total loss of convergence reflex was noted in 13 cases, and these all occurred in the patients in the later stages of the disease. Mignot<sup>11</sup> has recorded disturbance of this reflex in 60 per cent. of his cases.

The cases in which there was noted an internal ophthalmoplegia are purposely omitted in the percentages in which the light reflex was disturbed, as it is a symptom of little diagnostic importance in paresis and occurs in the very late stages of the disease. The symptom presented in 7 patients. It is a nuclear lesion and is more indicative of syphilis or other gross lesions of the brain. The course of the internal ophthalmoplegia is generally as follows: Diminution, then paralysis of light reflex; diminution, then paralysis of convergence reflex. The trend of the involvement of the pupil reactions in general paralysis is the same as the course of the disease in general, viz., a gradual progressive paralysis of all nervous structures, the result of a chronic inflammatory process of the whole nervous system.

The consensual pupil reaction was absent in 33 cases or 66 per cent., and the sensory or psychological reaction was present in only four of the patients. After the complete extinction of the light reflex, dilation upon skin excitation is only very rarely observed. Heibner and Bach (*ex citato*) have reported that the reaction has been elicited, even after the loss of the light reflex. As the sensory reflex is only well marked in early life and is slight or absent altogether in older persons, it can have no significance. The disappearance of the consensual reaction usually precedes the development of light paralysis in paresis.

The pupil reactions in 13 patients were re-examined some months later and in only two cases were there no further progressive changes, the others all showing pathologic conditions more marked than at the first examination.

A symptom which occurred in 28 of these paretics, or 56 per cent., was a distortion or misshaping of the pupil, and this symptom, I believe, is of diagnostic value. Moebische found misshapen pupils in 60 per cent. of his cases. Others (Briand, Antheaume, Trenel,<sup>12</sup> Joffroy) as occurring in from 47 to 78 per cent. of cases.

Zuninski believes it to be a precursor of brain atrophy. It is regarded as the first sign of disturbance in the innervation of the iris, and marks the beginning of a reflex iridoplegia, of which the Argyll-Robertson pupil is an advanced stage. All authors do not have the same opinion in regard to the value of this symptom, but the general opinion prevails that it is of importance. (Bumke.<sup>13</sup>)

There was partial opacity of the lens in one case. The vitreous was normal in all of the cases. The vision was taken in 39 of the patients. In 11 patients it could not be determined on account of the dementia present. Twenty-four had one-half vision or better, 5 of these having normal visual acuity. In 8 the vision equaled from one-sixth to less than one-half. Three patients had perception of light only, and one patient was blind, with no perception or projection. The fields for form and colors were not taken.

Lessened visual acuity is, according to some authors, such an early symptom in general paralysis that they consider it the first important one. It is supposed to appear in the very beginning of the disease, before either inequality or malformation of the pupils takes place.

In 26 cases examined by Davids<sup>14</sup> the vision was normal in 20 of the patients, and in 4 others there were conditions that he demonstrated—such as cataract, strabismus, and refractive errors—which accounted for the amblyopia. Holden, in 70 cases in the early stages of the disease, found 48 patients who had normal vision. Three cases had demonstrable lesions in the fundus and the balance, he found, had errors of refraction sufficient to account for the lessened visual acuity. Other investigators report the same in regard to visual disturbances.

Tobacco or alcoholic amplyopia may play an important part in the visual disturbances which have been attributed to general paralysis, and these conditions must be ruled out before much dependence can be placed on these changes. It can be said that vision, together with color sense, is generally normal in general paralysis.

In the fundus there was evidence in 2 cases of an old choroiditis, there being present atrophic areas in the retina and choroid. The blood vessels of the retina showed suggestive changes of arteriosclerosis in 5 cases, these changes con-

sisting of tortuosity, increased light reflex, beading and indentation of the vein where crossing of an artery occurred and enlargement of the caliber of the vein on the distal side.

Atrophy of the nerve head was present in 9 cases, 5 being of the neuritic type and in 4 the simple form. Pallor of the disk was shown in 3 cases and a hyperemia in 3 cases. All of my cases of optic atrophy, with one exception, occurred in the later stages of the disease. The one case in which it was found in the prodromal stage of the disease was a woman, aged 24 years, in whom optic atrophy was present in one eye.

Uhthoff<sup>15</sup> and others (Galezowski, Keraval and Rodiet<sup>16</sup>) have found abnormal conditions of the disc and retina in a large percentage of cases, characterized by pallor of the disc and an opacity of retina around it. Schmidt, Rimpler<sup>17</sup> and others, on the other hand, did not observe these changes which were attributed to paresis. Holden did not find among his 70 cases in the early stages of the disease a single case of optic nerve atrophy. Optic atrophy is present in about 5 to 10 per cent. of cases of paresis and is most frequently manifested in the period of complete development of the disease. (Marie, Ballet, Krafft-Ebing,<sup>18</sup> Gudden,<sup>19</sup> Joffroy, Dawson & Rambou,<sup>20</sup> Tibaldi, Knapp.<sup>21</sup>)

#### SUMMARY.

Ptosis, partial in degree, occurs in paresis in a small percentage of cases, is a symptom of the late stages of the disease, and is of no great diagnostic importance on that account.

Ocular palsies are present in about 10 per cent. of the patients; occur late in the disease and are of no especial interest.

Inequality of the pupils is found in half of the cases of paresis. It is, if not the first, one of the earliest symptoms to appear, and is of undoubted diagnostic value.

Distortion or misshaping of the pupil occurs in a certain percentage of cases in the prodromal stage of paresis and reaches in patients in the later stage a high percentage. It is only of relative importance.

Reflex iridoplegia and diminution in the light reaction are of great diagnostic importance. The Argyll-Robertson pupil is a cardinal eye symptom of the disease, reaching, aside from tabes, its highest percentage in general paralysis. It



appears early in the disease in about one-third of cases.

The consensual light reaction is absent in about one-quarter of the cases in the early stage of paresis, and is absent in practically all of the cases in the terminal stage. Alone, it has not much diagnostic significance.

Vision, together with the color sense and visual fields, is generally normal in paralytics, at least in the early stages.

There are no fundus changes which are indicative of paresis with the exception of optic atrophy, which occurs in 5 to 10 per cent. of cases in the last stage of the disease.

In conclusion, I wish to express my thanks to Dr. George A. Zellar, superintendent of the Peoria State Hospital, and to the medical staff for the privilege and assistance in making these examinations.

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#### DISCUSSION.

Dr. H. W. Woodruff, of Joliet: When I received my diploma and came out of the medical college I had a few ideas impressed upon me. One was the idea that if a person had unequal pupils it was a symptom of some grave spinal or brain disease, just what was rather indefinite in my mind. I remember distinctly a patient who consulted me because one

pupil was larger than the other. I could not understand why something did not happen to that individual. He is still walking about today and does not entertain a very high opinion of my ability, I know, as I advised consultation right away with a nerve specialist. I thought that he was in a serious condition. His unequal pupils were due to unequal refraction. As Dr. Welton has said, the symptom is not of great importance, while it occurs in a proportion of cases of paresis, but the symptom alone, without something else, is absolutely of no value at all.

Dr. George F. Suker of Chicago: I think, with Dr. Woodruff, that the section should be thankful to Dr. Welton for his paper. This is the best paper on the subject that has been presented in many a year by an eye man before any eye, ear, nose and throat section. We have not recognized the reaction of the pupil in the sense of diagnosis, symptomatology and prognosis for what it is worth. It is of immense importance as an early diagnostic symptom in many conditions, particularly in the tabetic, as well as the general paretic. I make very little distinction between a tabetic and a general paretic as to etiology. Tabes is always syphilitic, first and last. A general paretic is so near a syphilitic, that, if he is not syphilitic, he ought to be; hence there is very little difference.

Inequality of the pupils is a very common symptom even in a so-called normal individual, but it is always indicative of one or two things—disease of the third cranial or sympathetic nerve, and the sympathetic is the one most frequently involved. If the sympathetic is involved you have a pupil that is small on the side of involvement and readily differentiated from any other nerve lesion of the iris by the application of cocaine or by the fact that it is only quantitatively and not qualitatively limited in its reactions. Cocaine in a normal pupil will give a moderate dilatation. If the pupil dilates under cocaine the sympathetic is not involved. If atropin gives the maximum dilatation, the sympathetic is not involved. Therefore the early differentiation as to whether or not the sympathetics are involved is of prime importance. There are very few syphilitics that live their span of life and die from any intercurrent disease but do not have an involvement of the sympathetic, first or last. The involvement of the third in the paretic is not as common.

The Argyll-Robertson pupil shares its frequency with tabes and general paresis. An Argyll Robertson pupil with an absence of the patellar reflex, which we invariably get in the last stages of general paresis and sometimes unequal patellar reflex on the two sides in early paresis, is almost proof positive that the man is syphilitic.

In regard to the field of vision I beg to differ with the doctor in so far that the early paretic does show a contraction of the field of vision in some

portion or another; in other words, shows areas of scotoma, particularly as far as the color perception is concerned. You will find either a scotoma or what might be called amblyopic scotomatous areas.

The misshapen pupil is also an early sign which can be depended upon, particularly if you have unequal pupils. This in conjunction with an unequal or irregular pupil is as early an ocular sign in general paresis as you can possibly get.

The optic atrophy in a general paretic, in conjunction with a static myotic pupil, denotes an advanced stage of the disease.

If we pay particular attention to our unequal pupils we will find that many of them are brought about by obstetric interferences or by the wearing of too high and tight collars, causing pressure, injury to the neck, tumors, etc., involving the sympathetic on that side; and, as soon as it is involved, you are bound to get unequal pupils.

In the implication of the sympathetic we may have very marked differentiation regarding the size, which later on will more or less disappear, though never entirely. But should the inequality disappear to a very large extent we can be sure of the fact that the connection between the sympathetic on the two sides of the body is present. It is not always present in the human subjects; it is most frequently present in lower animals. If the pupil remains small persistently, as first observed, you can safely come to the conclusion that the association between the right and left sides of the sympathetic is not present or well established. It is the ganglion of Ribes situated near the anterior clinoid process, which furnishes the direct connection between the sympathetics on either side of the head and neck.

Dr. Welton (closing the discussion): I would just say that unequal pupils are found, as I stated in the paper, in 10 per cent. of normal individuals. Also in examining several hundred other insane patients—that is, patients suffering from all sorts and forms of insanity—they showed the same proportion.

One point about the unequal pupil is that even though it does occur in 10 per cent. of normal individuals, it is a subject that calls attention to the eyes, and if further observation is made would perhaps lead to finding some trouble—some serious trouble—and in that way this symptom is of value. Clark has reported thirty-seven cases of gross lesion of the central nervous system, with not a single case in which the Argyll-Robertson pupil was present. If this Argyll-Robertson pupil is simply a symptom of syphilis, it does not amount to much. If it is a symptom of a condition underlying such conditions as paresis or tabes, it is a symptom of great importance, and that latter view must be entertained today.

As to the fields and colors, they were not taken because in looking over the literature all sorts of reports are made. Some men find all kinds of changes in the form fields and color fields and others, equally

as good observers, nothing at all, so that these findings amount to very little. In the second and third stages of the disease it is absolutely impossible to get the attention of the patient in order to get these fields.

One point which is of importance to the railroad surgeon: These cases should be recognized early, because if you allow a man to run a railroad train who is suffering from paresis you are going to have trouble. That is the main point that I meant to bring out, that the general man and the ophthalmologist should work together, looking out for just such conditions in the eye as occur in general paresis.

## TREATMENT OF FRACTURES—PAST AND PRESENT.

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At certain periods in the world's history, events have occurred so revolutionary in their effect that by common consent they are recognized and credited as "lines of demarcation between the past and the present, the old and the new." In medicine we point to Harvey's discovery of the circulation, Fracaster's doctrine of contagion, Jenner's inoculation and Long-Morton's anesthesia, each with its marked influence upon medical science. Yet, if in search of a point of cleavage between the past and the present in surgery, all will admit that it was the advent of Listerism. Antisepsis, joining hands with anesthesia, began the march of conquest which has been so replete with victories. Growing more venturesome, we soon discovered that the refinement of antisepsis was asepsis, and that one thus protected, by the exercise of reasonable care, could invade the "holy temples" of the human body with measurable safety, or even do considerable damage and escape with credit.

So the wheels of progress were accelerated, but as so frequently happens under similar conditions when the mind of man is directed toward investigation in some particular field, some one subject becomes paramount and is usually developed at the expense of others. So with us—the abdominal cavity and its contained organs had our loyal and undivided attention. With that enthusiasm born of conquest in new worlds, with many of our idols shattered and many others under suspicion, there obtained a degree of skepticism relative to any method or procedure that claimed the merit of age. No matter how conscientious the teacher might be, no matter how he might strive to save for the future a few



truths from the wreckage of the past, he found his efforts were discounted; the student, blinded by the new light, classified the old as decrepit rather than seasoned. After the excitement had subsided and sober second thought had given place to mad illusions, we found it profitable to inquire into the merits of some of their methods and to question whether even their restricted opportunities for medical education did not possess some points worthy of commendation.

Admitting that few of the departments in their medical colleges could qualify scientifically as "exact," need not discourage us, for it is recognized that their devotion to these few subjects was intensified. Chief among these was anatomy, known as the foundation. The student was drilled upon this subject from the time he entered the office of his preceptor until he graduated.

In that age amputations, the reduction of fractures and dislocations, with an occasional invasion into neutral zones as a measure of last resort, formed the bulk of major surgery. Anyone who was not familiar with the elective points for amputations; the kind of flaps required; the names of, and the variety of fractures, with their possible deformities; the influence exerted by muscles by reason of their origin and insertion, and the best means for avoiding or correcting deformity, and who could not command and apply these facts instantaneously was deemed unworthy of confidence.

In fractures, without means of verification, it was not strange that in many instances, having obtained satisfactory cosmetic and perfect functional results, they were misled in their opinion that they had secured perfect coaptation of the fragments. This ignorance was an incentive to greater care, for they were convinced that it could be done, and should be done, and that defects were chargeable to obstacles insurmountable.

These were the conditions existing at the time when the major surgery of the past became the jest of the present. The pendulum swung its limit. The surgical world stretched and yawned and, like Alexander, "sighed for new worlds to conquer." For years they had bored and been bored, "ad libitum, ad nauseum," by a reiteration of facts and theories which were common property.

About this time Mr. Arbuthnot Lane of Lon-

don read his excellent paper at the Atlantic City meeting of the American Medical Association. In his opening remarks he said: "I was led to operate by the fact that in dissecting bodies I found the displaced fragments hardly ever united in anything approaching apposition," and as a result he had for years treated all fractures in which he could not secure coaptation without deformity by the open method. He displayed a number of excellent instruments and plates, the practical value of which had been proved by his experience in this work, advocated immediate operations, cautioned against touching the wound with anything but the sterilized instruments, and concluded by showing coaptation of fragments, perfect union without infection and almost universally satisfactory results.

The points which appealed to all as being new, therefore worthy of adoption, were, first, that nearly all fractures were surgical, thus transferring a large amount of work from territory classified as neutral to surgical; and, second, his refinement of technique, coupled with the most simple and practical means for reliable fixation. It seems strange that this paper should have occasioned such a furore in the surgical world. Much that he advocated had been known and used for years, and some of the things were recognized as being ill advised. To illustrate: Lane's dictum, "to operate immediately," even though safe, guarded by his strict asepsis, does not meet with the endorsement of past experience or that of our best authority today. Packard in discussing ununited fractures treated by the open method, states: "And while it is admitted that the condition brought about is not exactly that of a compound fracture, by reason of less traumatism, it is noted that previous pathologic conditions have established a tolerance that does not exist in a healthy limb suddenly subjected to violence."

Our Dr. J. B. Murphy, the highest authority on the surgery of the bones and joints, emphasizes this point and states that "in all cases time should be given for blocking the lymphatics." He also takes issue on the point of immediate wiring or plating of compound fractures, and states that "in more than thirty years' experience the number that had healed in, in those put in primarily, could be counted on the fingers of one hand."

The consensus of opinion among the best men of the present surgical age, no matter how favorably circumstanced, is in consonance with this opinion. Are we ready to accept the dictum that all fractures should be plated? Even though our results today may not be equal to those of the past, are the results, plus the danger of possible infection, so far superior to those which have been obtained, or can be obtained, by non-operative means worth the added danger? First, we must admit that operations do not guarantee perfect anatomic results. Second, even in the hands of the most expert there is the possible danger of wounding important vessels and nerves. In the main, the average non-operative results of the past are far more satisfactory than the operative results of today.

Ask the leading operators: "Are you putting in Lane plates?" and the great majority will answer: "No, thank you. We are taking them out." I understand that in one of our large hospitals seven were removed in one day. If this is a fact, what was gained? Evidently, they failed in securing primary union, deformity was not obviated, and doubtless the degree of infection made considerable inroads upon the patient's vitality and lengthened the period of convalescence.

Suppose we do have some deformity. Scudder, quoting from Stimpson relative to this matter, states: "Irregularities of outline are functionally and cosmetically unimportant in the great majority of cases in which proper non-operative treatment has been used; anatomic results are ideal and theoretically desired; practically, they are non-essential."

It is not within the province of this paper to assume treatment by the open method was not required in the past, or will not always exist. Crude as were the former methods resorted to in cases of non-union, surprisingly good results were obtained. Schede used wire needles in pseudo-arthroses with union in all cases. Pancoast drilled the bones. Diefenbach used wire pegs. White of Manchester, in 1760, long before the age of anesthetics or antiseptics, resected in a number of cases with brilliant results. Horeau used metallic wire to bind together the fragments in oblique fractures. Rodgers of New York passed wire through holes drilled in the ends of the bones. Plates of german silver with

screws securing them in position were also used. Hamilton, by engaging the end of one bone in the medullary canal of the other, met success, and we also find that the brilliant work of bone transplantation being done by Dr. Murphy was anticipated, when Nussbaum, in 1875, in the case of a fractured ulna with loss of substance, shifted a fragment of the upper to the lower, leaving its fibrous attachment intact.

Admitting a reasonable increase in the number of cases which may be properly classified as operative, we still must choose the means which we think the most simple and effective. Practically we are confined to those perfected and used by Mr. Lane and those originated by Dr. Murphy. I believe each has its proper field. The fallacies charged against the Lane method are, injudicious selections, faulty technique and imperfect asepsis. If these conditions are so productive of disappointment or failure in the hands of the average operator, to what extent will this increase or decrease when the intermedullary splint of Dr. Murphy becomes popular. Upon what basis must we conclude that a surgeon who is unable to safeguard one field from infection will be able to safeguard two, and will not the character of the material handled be an added danger?

Mr. Lane operates on his fractures, whether simple or compound, at the earliest practical moment.

Dr. Murphy advocates a reasonable delay in simple fracture, and makes no effort toward mechanical repair in those that are compound until they are completely healed.

Here is a marked difference in opinion between two men of great experience, who are justly credited as being authority. Under these conditions, I think we may be pardoned if we claim the privilege of acting in this matter upon our judgment or experience, being so governed, we would judge there should be no contention as to the inadvisability of introducing foreign material of any kind into a compound fracture.

In my own work I settled this matter years ago, I learned my lesson in the hard but efficient school of experience. I could hardly be tempted to repeat my mistakes. Another vital point.

I think all will agree that the impaired vitality of suppurating wounds is not improved by breaking up the protecting exudate or opening up



blocked lymph channels, and if the introduction of a foreign body into a wound of this nature is conducive to fibrous, cartilaginous or osteoblastic formation it is in opposition to the experience of practical observers.

Bartlett, in a late article, asserts that the plating of fractures in an infected field is an "ill founded bugaboo," and cites a few cases in which union occurred some three or four months after plating. His argument in favor of this procedure is stronger against it. He states, "plates are used with the proviso that they are to be removed later; systemic infection is to be guarded against." He found that in no instance were the plates and screws in direct contact with the bone, being separated by granulation or fibrous connective tissue. In short, union resulted not on account of his plating but in spite of it.

The average man working under ordinary conditions is more interested in the means for improving his own work than he is in merely exploiting the fallacies of the new gospel. Fortunately the means employed by the advocates of the open method of treatment may be appropriated by those who follow the closed method with surprising improvement of our present results.

First, their work is done under the most favorable conditions in their own work shops. While we may not always be able to preempt this part of their methods, we can at least improve on what we have heretofore held sufficient. Strict asepsis in compound fracture is not always possible. Accidental infection, fortunately, is mostly superficial and does not prevent primary healing. More to be feared is elective infection of the deeper recesses incident to exploration by finger or probe. This aborts primary healing in every case.

Full anesthesia is demanded in the open method. If we would be impressed by the fact that anesthesia is a necessity and not a convenience in the treatment of most fractures, and that it must be carried to a point where complete muscular relaxation results, there would be less complaint about deformities.

For success by the open method a retinue of trained assistants are required. Except in our more populous cities or where hospital facilities are at our command, this desirable adjunct must be dispensed with. Doubtless we might be criticised for our failure to avail ourselves of the limited aid which we often could command. Pos-

sibly the popular impression that any fool doctor can set a fracture is not without its effect, and influences us in our work more than we care to admit, preventing requests for assistance for fear it might be construed as an admission of our lack of knowledge and skill.

Formerly the traction used, if used at all, was represented by the strength of a muscular assistant. In the treatment of fractures of the femur, even by the open method, Mr. Lane has taught us that no amount of traction which can be exerted will overcome the overriding of the fragments of a spiral fracture, and that only after freeing the ends of interposed muscles and fascia and relieving the restraining bands of fibrous tissue, aided by proper leverage, can the fragments be properly adjusted. While this is true in respect to spiral fractures of the femur, and applies to those cases of transverse fracture when the limb is large and muscular, yet there is a respectable number of cases occurring in children, elderly people and those of scant muscular development, when traction aided by manipulation is effective. However, no matter how satisfactorily one may reduce a fracture of the femur there is no guarantee that the displacement will not again recur. It is almost impossible to insure fixation or relieve the break of strain incident to muscular action or changing position of the injured member without supplementary means of support in addition to those heretofore used. As a consequence, it is in this class of fractures, even though they nearly all unite in due course with good functional results, that the Lane plate finds its greatest field of usefulness, if we desire to escape shortening and further safeguard angulation.

In a recent communication from a defense company, they state that of the malpractice suits entered, fractures of the femur rank first, Colles' fracture second and fractures of the tibia and fibula third. While we always prepare our patients for possible bad results in Colles' fracture, which is one of the fractures that should cause least deformity and which is most easily controlled, we are altogether too optimistic in fracture of the long bones. The patient, not knowing that overriding is the rule, is shocked upon viewing an x-ray plate showing this result and is prone to take legal action upon the supposed ground of neglect.

We are entering upon a new era in our treatment of fractures. All recognize the splendid results obtained by both Dr. Murphy and Mr. Lane, each by their selected method; all aspire to obtain equally satisfactory results, but we shall find few who possess their opportunities and fewer still in whom is combined their mechanical skill plus their surgical and scientific knowledge. Until this fact is recognized we shall have many of the disappointments and humiliations which was the penalty of inexperience in the early years of abdominal surgery.

In the meantime, yielding none of the well earned victories in other departments of our work, let us go back to the past, appropriate their attitude of conscientious care devoted to each case, study its particular needs, and strive to master the fundamentals, uniting the basic virtues of the past with the splendid opportunities of the present: doing thus, may we not hope to attain results so satisfactory that operative needs will be reduced to a negligible quantity, remembering that it does not avail the average case, that some *one* possesses exceptional skill, for the average man is dependent upon the skill and knowledge of the average surgeon.

RELATION OF AND THE LESIONS PRODUCED BY VARIOUS FORMS OF STREPTOCOCCI WITH SPECIAL REFERENCE TO ARTHRITIS\*

(ABSTRACT)

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About a year ago I became interested in the question of the transmutation of pneumococci and streptococci, and other examples of the streptococcus group. It had been known previously, especially from the work of Davis, Buerger, Cole and others, that certain streptococci may take on cultural features and other properties quite different from those they had when first isolated, and I have previously shown that the organism from that form of endocarditis known as chronic septic endocarditis, the *streptococcus viridans*, can by animal passage be converted into pneumococci. It is generally considered that the *streptococcus viridans* is an intermediate organism between pneumococcus, on the one hand, and hemo-

lytic streptococcus, on the other. I felt that we should know whether a typical pneumococcus, for instance, could be converted into typical streptococcus, and this has been done completely. The transformation is so complete that I have no hesitancy in saying that if bacteriologists can differentiate a typical pneumococcus from a typical hemolytic streptococcus, then it is possible to transform one into the other. The pneumococci formed from streptococci have capsules, are indistinguishable from the former in morphology, correspond to all the differential tests known, have a pathogenicity more or less characteristic of pneumococci, producing hemorrhages in lungs and exudative pneumonia during a certain range in virulence and pneumococcemia when still more virulent, are agglutinated specifically by antipneumococcus sera and give rise to the formation of antibodies specific for pneumococci. Hemolytic streptococci formed from pneumococci behave exactly as do streptococci from the usual sources. During the transition of pneumococci into streptococci and vice versa there are intermediate forms which correspond to those strains of which *streptococcus viridans* is the most typical example and to the streptococci from rheumatism.\*

I propose tonight to throw on the screen just a few photomicrographs of the various organisms of this group transformed one into the other, and at the same time to show you the various more or less characteristic lesions produced by them experimentally.

Owing largely to the work of Davis and Billings, Koch, Cole, Meakins and others, we know that hemolytic streptococci have a marked affinity for the joints of animals and man.

Here is a typical hemolytic streptococcus, isolated originally from the tonsils in a case of scarlet fever, about two and one-half years ago. When injected into animals, it showed a marked affinity for the joints of animals, producing arthritis repeatedly.

The following four photomicrographs (borrowed from Dr. Jackson's and Davis' collection), show the presence of and the type of lesions produced by intravenous injection of hemolytic streptococci.

Five days after intravenous injection the streptococci are found free in the joint exudate in

\*Read before the Chicago Medical Society, Nov. 12, 1913.

\*The paper giving the details of this work will appear in a forthcoming number of the *Journal of Infectious Diseases*.



large numbers, in the small blood vessels about the joint surrounded by round cell infiltration and in the adjacent tissues, while later they may be absent or hard to find and there are present exostoses, atrophy and necrosis of cartilage and granulation tissue.

Here is a photomicrograph of the streptococcus, just shown, as a *streptococcus viridans*. Instead of having the rather single coccoid forms in the relatively short chains we have distinctly elongated, small and large diplococci, long chains and clumps. This hemolytic streptococcus was converted into *streptococcus viridans* by growing it in symbiosis with *bacillus subtilis* on the surface of blood agar plates. When it had acquired the morphology and the cultural features of the usual *streptococcus viridans* it lost the affinity for the joints and acquired a marked affinity for the heart valves producing hemorrhages in the heart valves and endocarditis repeatedly without arthritis.

The affinity for the heart valves of *streptococcus viridans* and for the joints of hemolytic streptococci was shown strikingly in a series of experiments some time ago in which mixed cultures of these and mass cultures from tonsils were injected. The endocarditis which developed was proven to be due to the former and the arthritis due to the latter in the same animal.

Here is the same organism transformed into a typical, lanceolate, encapsulated, highly virulent pneumococcus producing now neither endocarditis nor arthritis but a rapidly fatal pneumococemia instead.

After I transformed hemolytic streptococci, *streptococcus viridans* and pneumococcus one into the other, I felt that if there is such a thing as a "streptococcus rheumaticus," we must find it if possible and determine its relation to the other members of the streptococcus group. By the use of shake cultures in test tubes containing a large amount (approximately 12 c.c.) of ascites-dextrose agar, thus affording a wide range of oxygen pressure, I have been able to isolate the organisms corresponding closely to those described by Poynton and Paine and others, from the joint exudate in 14 out of 16 cases of acute rheumatic fever. The negative results were obtained in two cases which were convalescing at the time the cultures were made. By a similar technique the organism was isolated from the blood in four out of seven cases and in two cases from the stools.

The strain shown here was isolated from the joint in a case of articular rheumatism without muscle involvement. This strain together with others formed as you see very long chains and clumps in broth, produced relatively non-adherent large moist colonies surrounded by a zone of green on blood agar plates and when injected into animals reproduced the picture of rheumatic fever very closely indeed, producing transient non-suppurative arthritis, the exudate showing few or no organisms, and a subendothelial nodular endocarditis in the same animal repeatedly, together with pericarditis in a number of animals. Ulcerative appendicitis, iritis and conjunctivitis occurred not infrequently after intravenous injection of these strains.

The type of organisms isolated from the joints and in one case from the muscle in cases of rheumatic fever where there was definite involvement of muscles is illustrated in this photomicrograph. These strains consist of diplococci and short chains and produce from the beginning a slight hazy and indefinite hemolysis. When these strains together with other strains of streptococci which are made to resemble these, are injected into animals they produce an embolic non-suppurative myositis involving chiefly the flat muscles and more tendinous portion of the muscles of the extremities, a severe myocarditis involving chiefly the right ventricle, and arthritis and endocarditis similar to the strains from the cases in which the muscles were not involved. It must not be supposed that the lesions in the muscles are accidental. They occur only at a certain grade of virulence and at this point the affinity for the muscles is so marked that the number of lesions obtained is in proportion to the size of the dose injected. After one or two animal passages it is again completely lost and it is now impossible again to produce the muscle lesions.

A third type, not illustrated here, resembles those described as "micrococcus rheumaticus." They were obtained from cases without muscle involvement, produced small grayish colonies without a green or hemolytic zone, and simple endocarditis and arthritis without myositis and myocarditis when injected intravenously in animals.

The endocarditis following injections of the strains from rheumatism has been proven to be embolic in origin just as *streptococcus viridans*

endocarditis but instead of producing large vegetations there appeared small nodules which remained subendothelial and which showed a marked tendency towards healing, thus simulating the endocarditis of rheumatism in man.

The three types of organisms from rheumatism have been converted one into the other; all the strains have lost the more or less characteristics pathogenic and cultural properties. The first group now resemble *streptococcus viridans* producing vegetative endocarditis without arthritis, the second hemolytic streptococci producing arthritis without endocarditis.

I will now illustrate some of the lesions of the muscles. This is the external and internal oblique of a rabbit injected forty-eight hours previously by the organism which I have just shown you, from a case of muscular rheumatism.

This is a cross-section of one of the white areas you have just seen, showing degeneration of muscle fibers together with round cell and leukocytic infiltration.

This is a longitudinal section of the muscle of a dog, showing a lesion two weeks after injection.

And here is a section of the involved biceps removed from a man at the height of an attack of "muscular" rheumatism, which occurred as the joint symptoms subsided. He had severe muscular pains all over the body, and distinct localizations in various muscles, especially in the intercostals, the occipito-frontalis, and the muscles of the shoulders. The section shows marked degeneration of muscle fibers, hemorrhage and round cell infiltration. It is from this lesion and the one in the supinator longus from which the organism was isolated, the lesion reproduced in animals, and from which it was again recovered.\*

Here is one of the strains from rheumatism transformed into an encapsulated pneumococcus.

Owing to the kindness of Dr. Cole I have been able to subject this idea of the transmutation of various streptococci to a supreme test. He was kind enough to send me his pneumococcus strains 1 and 2, and antipneumococcus sera 1 and 2. He and Dochez classify pneumococci into four classes, by their agglutination and protective reactions. Here is his strain No. 1, a strain isolated about eight years ago by Neufeld. It has been kept virulent ever since, and has always remained a typical

pneumococcus. Cole has described it as a pneumococcus with fixed properties, even retaining a definite standard of virulence for months on ordinary media.

By appropriate means I have been able to convert both of these strains into hemolytic streptococci, no longer being agglutinated by the antipneumococcus sera. Strain 1 is shown here as a streptococcus, note the chains and absence of capsules; and when injected into animals both are found to have lost a large part of their virulence and instead of producing death by pneumococcemia both produced arthritis in rabbits and in one instance cholecystitis.

In the following pictures is shown an affinity of streptococci for the mucous membrane of the stomach and duodenum in rabbits, dogs and monkey, which while not so striking as that for the muscles is nevertheless definite and which is shown usually at a grade of virulence a little higher than when the affinity for the muscles is greatest. It is seen that the ulcers are deep and infiltrated. Three of the dogs died from hemorrhage, two and four weeks after a single intravenous injection of streptococci. Sections as you see here prove the presence of streptococci in the depths of the ulcers as early as 24 hours and as late as one month after injection.

Owing to the fact that the grade of virulence is such so as not to give the picture of a generalized infection, that the type and localization of the ulcer is strikingly like the ulcer of the stomach in man, together with certain clinical observations suggest strongly that this may be a cause of ulcer of the stomach in man.

Owing to the co-operation of Drs. Mayo, Bevan and Ochsner, I have been able, in conjunction with Dr. Sanford, to study the bacterial flora of four chronic indurated (duodenal and gastric) ulcers together with regional lymph glands in one. The number of kinds of organisms are very few, staphylococci being the predominant organism. In two, however, we obtained streptococci and one of these strains showed an affinity for the stomach mucous membrane of rabbits and one dog which was very striking. The results are suggestive and we hope will give us and others the co-operation of surgeons, who are in a position to supply the material for cultures.

At about the grade of virulence when streptococci show the affinity for muscles and stomach

\*The details of these experiments are to appear in a forthcoming number of the *Journal of Infectious Diseases*.



mucous membrane they show an affinity for the gall-bladder, having produced cholecystitis repeatedly associated with beginning formation of gall-stones in three instances and in many instances the picture of an "ascending" pyelonephritis in both dogs and rabbits.

## CLINICAL ASPECT AND MEDICAL MANAGEMENT OF ARTHRITIS DEFORMANS.\*

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Chronic arthritis with deformity, in America usually termed arthritis deformans and in England rheumatoid arthritis, is, in my opinion, primarily of infectious origin.

In other articles<sup>1</sup> upon this subject a description of the source of the infection, usually focal, the experimental work done upon patients and animals, the clinical course of the disease, the method of management and treatment and the results thereof have been fully set forth. I think the experimental work done upon animals and men proves the infectious nature of the disease. Usually the infectious microorganism is a streptococcus. The work of Rosenow shows that the streptococcus may change its cultural and pathologic characteristics by varying the culture media, the oxygen tension, etc., and by serial animal inoculation. The occurrence of chronic infectious endocarditis, due to the *Streptococcus viridans*, of acute arthritis rheumatica (Payne and Poynton), of chronic arthritis due to another strain of streptococcus, of myocitis, acute and chronic, due to still another strain of streptococcus, all of them modified from strains of streptococci by varying culture methods which seems to show that the mutation of these strains may occur at the point of focal infection in the tissues. Varying degrees of oxygen tension in the tissues involved, possible biochemic processes going on in the tissues enclosing the focus and other unknown causes may bring about this mutation. It is, therefore, rational to believe that in different individuals the streptococcus growing in the focus may produce, in one person endocarditis,

in another acute arthritis (acute rheumatism), in another myositis with or without chronic deforming arthritis, etc., etc.

I think confusion has arisen from the attempt to anatomically classify deforming joint disease. In the same patient one may find varying anatomical changes—periarthritis, synovitis, osteoarthritis and panarthritis. In other words, varying degrees of involvement of the joint structures dependent upon the source of the blood circulation of the joint, apparently also to the resistance of the tissues to the infectious agent, and finally to the degree of virulence of the microorganism invading the tissues of the joint. The blood circulation of the joint structures consists of three separate systems—that to the periarticular structures, that to the synovial membrane and its reduplications, and, third, that to the medulla of the bones composing the joints. This explains the varieties of anatomical changes which occur in any form of chronic arthritis, i. e., periarthritis, synovitis, osteoarthritis and panarthritis. The degree of anatomical change, in the one case the so-called hypertrophic or proliferative, in another atrophic or degenerative, depends, probably, in part to the degree of virulence of the infectious microorganism and in part to secondary metabolic processes, the cause of which we do not know. Practically all patients with deforming arthritis suffer from a chronic myositis with interstitial overgrowth and consequent contractions, one of the causes of deformity. Heretofore this muscular contraction has been thought to be due to nervous influence or to occur as a secondary event in chronic arthritis, due chiefly to the posture of the limbs involuntarily assumed by the patient to relieve the pain in the joints. This is true in some instances, but in arthritis deformans the shortening occurs in muscles where nearby joints are not involved. Frequently the masseter muscles are shortened without involvement of the temporo-maxillary joint. The biceps humeri may be so contracted as to prevent normal extension of the forearm with no involvement of the elbow joint. Similar conditions may be present in the erector spinae, the anterior tibial and other muscle groups. Finally, histological examination of bits of excised muscle shows a chronic interstitia myositis. Cultures made of sections of the muscle and of neighboring lymph glands yield in many instances micro-

\*Read before the Chicago Medical Society, Nov. 12, 1913.  
<sup>1</sup>Billings, Frank: Chronic Focal Infections and Their Etiologic Relations to Arthritis. Arch. Int. Med., April, 1912, p. 484.

Billings, Frank: Chronic Focal Infections as a Causative Factor in Chronic Arthritis. The Journal, A. M. A., Sept. 13, 1913, p. 819.

organisms of coccal forms. It is our opinion that these microorganisms are the cause of the myositis and will prove, probably, to be mutation forms of the streptococcus organisms found in the tissues of the joints and nodes of arthritis deformans.

In addition to the primary infectious involvement of the joints and muscles in arthritis deformans, there is unquestionably an associated, probably secondary, metabolism which intensifies the anatomical joint changes and is further manifested by a general debility, with nervous irritability, frequently secondary anemia, loss of weight, disturbed digestion, etc., etc. In part, the poor general nutrition is due to the protracted illness with mismanagement, deprivations of proteins, etc., in the diet, lessening of the general strength by hot baths, and by too much irrational medication.

But in addition to this, there are metabolic changes in bones, cartilage and other joint structures which we do not understand. The best example is the "poker spine" of spondylitis deformans, in which the bony overgrowth has been compared with the melted tallow which flows down and hardens on the guttering candle. One finds the bones of the carpus and of the tarsus fused into one bony mass. Possibly biochemical study may explain this curious metabolic pathology.

Therefore, I would consider arthritis deformans as a clinical entity. This is based upon the established proposition of the existence of a chronic focus infection, due to a streptococcus which is usually located in the faucial tonsils, or in the antra of the head, or in the jaw related to the dental alveoli, or more rarely in the gall bladder, appendix vermiformis, prostate gland or elsewhere. The streptococci, isolated from the infectious focus, is susceptible of mutation in cultural characteristics and in pathologic effects. The morbid joints presenting varying degrees of involvement of the structures composing the articulation and anatomical changes usually classified as hypertrophic or proliferative, atrophic or degenerative, which seem to be expressions of intensity of the infection, plus the metabolic processes not understood. Finally, an associated chronic myositis, apparently due to a type of streptococcus that has an affinity for the muscles.

I think this clinical entity due to the streptococcus may be differentiated from other infections and chronic arthritis, if one keeps in mind the characteristics mentioned. Gonorrheal arthritis, and especially spondylitis, due to the gonococcus, may be difficult to separate from arthritis deformans. However, the gonococcal focus may be located in the urinary tract, the prostate, or more frequently in the seminal vesicles, and with the anaphylactic skin test will help to settle the character of the joint infection. Probably the Neisserian organism does not cause myositis. Tuberculosis, gout and neuroarthropathy are not to be confused with this more generalized disease.

The chronic joint diseases with deformity which involve the small joints of the feet, and more expressly the hands of people past the meridian of life, are usually due to trauma (work) and metabolic changes, due to malnutrition. Blood circulation in the phalanges becomes relatively poor with advancing years. Bony overgrowth or rarification may occur with resulting nodes (Heberden) and deformity.

Infection of the type of arthritis deformans may be added to this senile type of deformity if an infectious focal cause is present.

#### TREATMENT AND MANAGEMENT.

The first step in the treatment is the thorough investigation of each patient. The first general overhauling of the patient usually will disclose the fact that the disease is arthritis deformans as compared with senile metabolic joint deformity or gonorrheal arthritis, or if monarticular, tuberculous arthritis. If there is doubt as to the diagnosis at first, the attempt is made to find the gonococcus situated, focally, in the urinary tract or genital organs, or tests for the presence of tuberculosis may be made. If this is settled in a general way, and the diagnosis of arthritis deformans is made, an attempt is instituted to find the probable focus of infection. Here a word of caution is necessary. While I believe that the faucial tonsil is more frequently the seat of the focal infection than any other point of the body, still a thorough examination must be made of the sinuses of the head, of the teeth and jaws, of the pelvic organs in both male and female, and a searching inquiry and examination made as to the possible presence of a chronic focus of infection in the gall bladder or appendix vermiformis, and in the event of a gastrointestinal disorder,



and especially with stasis of the intestinal contents, a study of the feces as to the intestinal flora must be made. If the patient has suffered from frequent attacks of tonsilitis, if the tonsils show infected crypts, even though the organs may be small, they should be removed. The most innocent appearing tonsil may contain within it an abscess. The point is not to limit the investigation to the tonsil, but to search for a possible focus of infection elsewhere. If no focus is found elsewhere, it is my opinion the tonsils should be removed, even though the history is negative of attacks of tonsil disease and the patient presents no sign of infection.

Histological study must be made of the tissues removed and cultures made with proper technic of the tissues to obtain the dominant infectious organism, and this must be studied in regard to its specific relations to the blood of the patient both before and after vaccinations with the autogenous vaccine.

We usually employ in the vaccine, practically always autogenous, a mixture of the dominant streptococcal strains found in the culture.

Following the removal of the apparent cause, the patient is given a management based upon the individual peculiarities, and always with an attempt to improve the personal hygiene, the general nutrition and the nervous balance of the patient by good food of a mixed character, good air, both night and day, a maximum of sunshine, a hopeful environment, and when the conditions indicate it, first passive, then later, active exercise carried on in a graduated way.

The aid of orthopedic and general surgeons is frequently necessary to correct deformities due to contracted muscles and to apply proper temporary corsets for the spine and braces for the extremities.

This hygienic management does more than any other one thing to improve the immunity of the patient and to overcome the metabolic destructive process and degeneration going on in the muscles and joints.

Finally, immunity is still further established by the judicious use of the autogenous vaccines, repeated every five to seven days, in dose varying from fifty millions to two hundred millions. At one time we used larger doses of the vaccine, but experience seems to show that the smaller

dose gives quite as good results without the disadvantage of the excessively large dose.

With the use of the autogenous vaccines the immunity of the patient, as indicated by the opsonic and phagocytic indexes, is materially improved. Within twenty-four hours after the vaccine is given some patients complain of muscular soreness and of aching in the joints. This phenomenon is not universal and it usually diminishes as the vaccinations are continued. After the patient has had the vaccinations for a considerable period, many express a more comfortable feeling the day following the vaccination. Many of the patients who come to the clinic have received treatment by means of the stock vaccines from their home physicians, and in the last two years many have received treatment with phylacogen. I have yet to see one patient who has received stock vaccines or phylacogen, who suffers from arthritis deformans who has been improved by the treatment.

This is probably due first to the fact that the focal cause has not been searched for or removed, and consequently with the source of the infection constant one would not expect good results from vaccines or filtrates of cultures of bacteria while the cause of the disease is still active.

Again it would seem rational to base the use of the vaccines upon the character of the infective agent and without, therefore, making a bacterial diagnosis it would seem irrational to use a vaccine of any organism based upon a guess of the character of the infectious organism in the focus of infection and in the joints, muscles, etc.

As stated above, I consider the use of the vaccines as the least important of all the measures of treatment, but believe that with the cause removed, and with the proper hygienic management of each patient, that autogenous vaccines especially may be helpful in the improvement of the patient.

For nearly two years we also used a polyvalent streptococcus horse serum prepared by our own group of workers. Two horses were immunized with approximately thirty strains of streptococci obtained from foci of infection of the patients in the clinic. This serum, concentrated and refined, was heated and used in the treatment of about twenty-five patients. It seemed to improve the defensive powers of the patient, but at the



same time there developed, after two or three treatments, the phenomena of anaphylaxis, and in three patients this was so severe as to be alarming. Consequently we have ceased to use the serum.

In the study we have made of arthritis deformans we have taken the patients as they have come to us, and among these have been many with the disease of such long standing that there have been irreparable changes in joints and such atrophy of muscles from myositis and from disuse that recovery was not to be thought of. These patients we have studied, have managed in the method named above. As a result I believe that the progress of the disease may be checked, even in the advanced cases, and with many of them improvement may occur which makes a miserable existence far less uncomfortable. A study of these advanced cases apparently discloses the fact that vicious metabolic changes seem to continue in some of the advanced joint conditions, even though there be a general improvement of the health of the patient with coincident improvement of nutrition, nerve tone, etc.

In all patients who suffer from the least extensive disease of the infection, that is, those with peri-arthritis, always with more or less myositis, entire recovery may be brought about by the methods of treatment and management mentioned.

One may say also the same of those patients who suffer from synovitis, although here the much-thickened synovial sacs and capsules of the joints require a good deal of time for anatomical restoration.

Even in the beginning, types of osteoarthritis improvement of astonishing character will occur with functional recovery.

The changes which occur in the muscles incident to the chronic myositis present conditions which are more difficult to overcome than almost any other feature of the disease, because this requires a relatively long period of time. With the use of the autogenous vaccines obtained from the muscles, better results are promised, but the main thing necessary in the treatment of the muscular involvement is exercise, passive, and finally active. Inasmuch as these patients suffer from an unbalanced nervous apparatus, they feel tire as an ache or as a pain. Consequently all exercise must be limited in the beginning, even

massage, and the active exercise which may later be taken must be supervised and graduated. The patient must have a guide, otherwise the discomforts of tire will discourage and they will lapse into a passive state without improvement. Some of the greatly contracted muscles must be stretched under gas anesthesia as a method of saving time.

#### CONCLUSIONS.

First. That arthritis deformans is an infectious entity. There is a varying degree of joint involvement, sometimes proliferative or hypertrophic, sometimes degenerative or atrophic. In practically all patients there is a chronic myositis, sometimes quite generalized.

Second. Practically always there is a general debility with malnutrition and probably a secondary faulty metabolism.

Third. The focal infection which may give rise to arthritis deformans is usually located in the head, but may be located anywhere in the body.

Fourth. The treatment and management must comprise (a) the removal of the cause, (b) improvement of the general condition of the patient and the resistance to the infectious organism by a personal hygiene, including good food, pure air, sunshine, rational calisthenics, graduated exercise, a cheerful environment, and (c) by autogenous vaccination.

Five. The treatment and management of such patients should be carried on in a hospital where team work of the staff may be used in the investigation of the cause, the removal of the same and subsequent management and treatment, both medical and surgical, may be carried out.

122 SOUTH MICHIGAN BLVD.

#### ETIOLOGY OF BILIARY TRACT INFECTIONS AND THEIR RELATIONS TO DODUDENAL ULCER AND APPENDICITIS\*

(ABSTRACT)

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CHICAGO.

First, I will mention the blood supply of this region, because it has something to do with the distribution of the lesions. The inferior mesen-

\*Read before the Chicago Medical Society, Nov. 12, 1913.

teric artery, you will remember, is the supply of the appendix, but the region of the pylorus is supplied by the hepatic primarily, and that branch known as the superior pancreatico-duodenal. This one artery supplies both the gastric side and the duodenal side of the pylorus. It supplies that part of the duodenum which hangs from the gastro-hepatic omentum, or, rather, which is supported by the hepatico-duodenal ligament. This one artery supplies, then, that portion of the stomach and duodenum which is the site of ulcer, and it is not at all unlikely that, in accordance with the embolic theory of gastric ulcer, the emboli may enter on either side of the pyloric line, or in it; true, they may pass into the pyloric branch of the hepatic, but it is more likely, since the pathway of infection is more straight through the gastro-duodenal, that they pass straight down that pathway in somewhat the same manner as emboli pass up, as a rule, to the left side of the brain through the common carotid artery from the summit of the arch of the aorta in ordinary cases of cerebral embolism.

The lymphatic supply of this region also merits attention. The appendix has coming from it two sets of lymphatic vessels, or we might say three. There are in all mucous membranes, so far as I know, two sets of main lymphatics. These have not been described until more or less recently, or, rather they have been described by those who have paid special attention to them, but they have not appeared in our text-books until more recently. One set of these lymphatics, and a very important and somewhat disregarded one, is that which runs in the mucous membrane itself, and it is so near to the surface of the mucous membrane that it for a long time escaped attention. The next set is that which runs in the muscularis mucosæ; and then outside of that, beneath the peritoneum, is another subserous set of lymphatics. These three sets are more or less distinct from one another. That in the mucous membrane communicates fairly freely with that which lies in the muscularis, and the two communicate again with that which lies beneath in the subserous tissue. We, therefore, have coming from the appendix a set of lymphatics which may ascend the cecum and then up the colon in this mucous layer of lymphatics, or we may have the lymphatic current passing along the subserous surface, up along the colon, and giving rise to certain cases of inflammation

and peritonitis—localized,—and sweeping up along the cecum towards the ascending colon and producing numerous adhesions.

In the region of the duodenum, pylorus and stomach there is the same set of lymphatics. The mucous lymphatics are directly continuous through the pylorus, so that the gastric mucous lymphatics, the pyloric mucous lymphatics and the duodenal mucous lymphatics form one system. Then there is a similar system in the muscularis, and another system in the subserous coats. These all make their way into nodes, which pass up first along the gastro-duodenal artery, and then to the hepatic, and from there to the transverse fissure of the liver; hence infection is apt to localize at the entrance of the portal vein, as we all know, especially in case of specific infection, where a very marked contraction of Glisson's capsule sometimes takes place, with complete portal obstruction. We, therefore, would expect to find in these disturbances of the duodenum, pancreas, pylorus and stomach, lines of subserous peritonitis extending up in a general direction toward the liver; and it is easy to understand why, in these instances, we find so many different sorts of adhesions, but the adhesions in general all obey the same law, that is to say, the adhesions sweep along the current of lymphatic drainage.

There is one fundamental lymphatic law which can be clung to through thick and thin, and that is that infection follows the lymphatics, not *into* organs, but *from* organs towards other structures; and the lymphatics coming out from the pancreas, the peripancreatic, periduodenal and peripyloric, have their ending in the transverse fissure of the liver, and are responsible for so many of those cases of adhesions which seem to be characteristic of pyloric duodenal and gastric ulcer.

Another important fact is that in all tubular structures, that is, in all ducts in the body leading from glands, a set of lymphatics is to be found in the lining mucous membrane and these lymphatics always lead in a direction the exact opposite of that taken by the flow of the secretion. You find them in the urethra running up into the bladder; then from the bladder up the ureter to the kidney. You find the same lymphatic channels running up the ductus choledochus, the hepatic duct and then up to the liver, and the



lymphatics from the gall-bladder running along the cystic duct towards the common duct. Of course, then, it is possible to see that infection may be carried along this lymphatic system, in the direction of this lymphatic flow.

As to the mutual relations of these various lesions of the stomach, pylorus duodenum, appendix and gall-bladder, any surgeon knows that they are very frequently related. For example, if ulcers of the stomach or duodenum are operated on, very frequently foci of infection are found in the appendix and gall-bladder, and very frequently in the pancreas. If, on the other hand, you operate on the gall-bladder primarily, it is often true that you find, as a secondary finding, perhaps, an unsuspected gastric ulcer at the site of the pylorus or duodenum, and not infrequently you find a diseased appendix. Ochsner reported that in 35 per cent. of his gall-bladder cases he has found an infected appendix. Kehr, in Germany, has removed the appendix in a large number of his gall-bladder cases. If you remove the appendix only and do not cure the patient, what is the reason? It is because you have operated on only a part of the pathology and left untouched that which lies in the upper part of the abdominal cavity, either ulcer of the duodenum or gall-bladder disease which sprang from the infection below.

Appendicitis behaves in a different way, depending on whether it is acute or chronic. Acute appendicitis usually does not produce chronic lesions of the gall-bladder, or is not associated with duodenal ulcer or gastric ulcer. Acute appendicitis is, as a rule, associated with an acute inflammation of the liver, either in the form of an abscess of the liver—and the same thing also obtains in typhoid, where you get the same acute association—or cholangitis, cholecystitis, or acute duodenitis, but none of the chronic things that turn up in most of these operations follow acute appendicitis. In acute appendicitis we have foreshadowed in the so-called gastric symptoms of appendicitis much of the symptomatology which we come upon later in gall-bladder and ulcer cases. I look upon the vomiting which occurs usually at the end of twelve or somewhere between twelve and twenty-four hours, in acute appendicitis, as a gastric symptom called forth by the reflex disturbance below. Chronic appendicitis cases do not produce the liver abscess or

periphlebitis cases. They rather produce adhesions or pancreatitis, or may be associated with duodenal or gastric ulcer, or with a chronic cholecystitis, or sometimes chronic cholangitis or gall-tract disease in general.

I will first speak about the origin of these ulcers of the stomach, then the origin of gall-bladder disease, and then I wish to show how disease may spread from the appendix, from the duodenal ulcer, and from the gall-bladder.

As to the origin of duodenal and gastric ulcers: Two theories are held, one of which I am not inclined to, and the other in which I believe most thoroughly. The first was mentioned by Professor Milne when he was in Chicago. He says that the cause of gastric ulcer is apparently somewhat like this: That in the mucous membrane of the stomach, even partially in the submucous coat, there are small collections of lymphoid tissue. These are in greatest number along the lesser curvature and in the prepyloric portion of the stomach. When inflamed, these lymphoid masses swell up, push the mucous glands to each side and reach the surface. He says various terminations are now possible in such a swollen follicle—it may either resolve or break down in the center, as a minute particle of pus, and be discharged into the stomach, or it may erode as a result of having burst, or the follicle may, by bursting, give vent to a particle of pus, allowing the gastric juices to enter and digest the coat of the stomach and make in that manner an acute perforative ulcer. Or it may result in a chronic ulcer. If it does, and the process is long enough, it may result in a carcinoma. The first and second would produce an acute gastritis; the third, that form of ulcer often associated with hemorrhage, and the last a chronic ulcer or carcinoma.

There is another form, known as the "contact ulcer," which is undoubtedly not embolic, but arises in some such manner as Milne suggests. Without stating the pathogenesis of this ulcer, he says that if the infectious process is in the appendix or gall-bladder, the irritation may spread and involve the lymphatic tissue.

The theory we have heard tonight is the embolic, and is the one which I have for several years adopted as the only working one for the explanation of these cases. The work presented tonight by Dr. Rosenow is rather conclusive of



the origin of these ulcers by the embolic process. I want to call your attention to a fact which is of great meaning to me.

Up to about three years ago I was not a believer in the general statement, made by many patients with duodenal ulcers, that their attacks came on more particularly in the spring and fall of the year. I have questioned many patients in regard to this fact, and in many instances have found that duodenal ulcer is a disease more prevalent in the fall of the year. Why? The work which Dr. Rosenow has presented is to some extent an answer to that question. In other words, the old idea of a possible rheumatic appendicitis or a rheumatic ulcer has some justification in fact. It is because of the possibility of a generalized infection in the body at certain inclement periods of the year that the localization of duodenal ulcers may appear in the fall and in the spring of the year; so that this relationship may exist, but probably exists only in the cases of streptococci, staphylococci, influenza bacilli and para-typhoid infection. Those due to the bacillus coli communis probably will not be found to have any particular relation to any period of the year.

As to the origin of infection of the biliary passages. The possibilities which we have here are three: There may be either a cholecystitis and a cholangitis arising together, which is probably a very frequent occurrence—much more so than we think—and it is not at all unlikely that ordinary acute catarrhal icterus is due to this; or the cholecystitis may follow the cholangitis, or *vice versa*. We see all these conditions. The cholecystitis may follow the cholangitis, and commonly does, and the cholangitis, by reason of the bile flow, gets well and the cholecystitis remains behind, because of the stasis in the gall-bladder, and the rule is that it perpetuates itself, whereas the other clears. If the cholecystitis remains for a number of years stones may form; if they are liberated, infection passes down once more into the common duct, and there is another lighting up of a cholangitis. Thus the two conditions are interchangeable.

The origin of these infections, bacteriologically, has been found to be due in the great majority of cases to two germs, numbering about 65 to 75 per cent., namely, the bacillus coli communis and the bacillus typhosus, and in some instances, of course, to the para-typhoid. Besides these, the pneumococcus, the influenza bacillus, streptococ-

cus and staphylococcus have all been found. A Japanese surgeon states that 17.9 per cent. of his cases, with operation, were due to parasites instead of bacteria.

The relation of gall-bladder disease to pregnancy I shall merely mention, stating that it is likely that an element of biliary stasis in corset-wearing does come in in these cases, because of the discrepancy of gall-bladder disease among Japanese women, three women to two men, and in European and American countries, as twelve to three between women and men.

Another interesting point in connection with gall-bladder infection is incidence as regards advancing years. Old men are far more apt to have gall-bladder diseases than the young. When people get to seventy years of age the chances are even. That, of course, is due to the fact that the longer one lives, the greater chances one has of acquiring some sort of infection.

Regarding preliminary illnesses which may lead up to the trouble with the gall-bladder, the most common ones are, first, typhoid fever; second, influenza; third, rheumatism, and various forms of disturbance of the bowel, malaria, syphilis and peritonitis, this having to do only with the acute infectious diseases, excluding appendicitis, which, of course, as you know, has a great deal to do with the incidence of gall-bladder disease.

As to how these things may spread: It is difficult to account for the infection of the gall-bladder directly from the appendix. Why? Because neither the flow of blood nor the flow of lymph is a direct one from the appendix. The lymphatic flow is, of course, up along the cecum into the mesentery. It does not get up to the gall-bladder region at all, and the result is that the peri-appendicitis or pericystitis is simply localized to that area and sweeps up to the mesentery and along the superior mesenteric branches. The portal blood is the only possible method of infection that I can see from the appendix. The portal blood from the superior mesenteric vein runs very straight to the liver, and then produces, by way of the portal blood, an infection of the gall-bladder and ducts, and then a general cholangitis or cholecystitis. The first might immediately clear up and the latter remain. Only those cases of appendicitis which are of the chronic type will so act. The acute will not.

There is one other possible source of infection, that of the blood stream, which may then infect the walls of the gall-bladder and the liver directly.

Chronic disease of the appendix does promote duodenal stasis, and with that there is an excellent chance for the development of a large number of germs. The simultaneous development of gall-bladder and appendix disease will probably take place, and if so, through the blood stream. It cannot take place in any other manner. Here, as I have said before, we have as possible avenues of infection, first, the subserous lymphatic route, which will give rise only to adhesions, which may be very burdensome and may cause cholecystitis of intense grade. Those which bind down the cystic duct or tack the gall-bladder to the duodenum and drag it are painful, and have to be remedied by operation. They invariably bring forth vomiting, which is always bile-stained. The infection in these cases is more apt to be from the ulcer into the general blood stream and from the blood stream, then to the liver and gall-bladder. It may, however—and I won't dispute this source—spread by way of the portal vein, because the absorption of material from the ulcer is easily possible, and can easily spread through the hepatic vein, from the gastro-duodenal vein, up to the transverse fissure, enter into the superior mesenteric vein at its junction with the gastric and splenic, running into the portal and straight into the liver. It is possible, but not probable, that infection of the gall-bladder does take place by way of the portal tract.

The other method which has been given for the passage of infection is straight up the common duct, and that is the favorite explanation of many men. There are a few important facts in this connection which were brought out by A. O. J. Kelly, the late editor of the *American Journal of the Medical Sciences*, in December, 1905. In the Mütter lecture, which was far ahead of his time, he stated his firm belief in the fact that infection does not, contrary to the then received opinion, ascend directly through from the duodenal and gastric area, through the common duct into the liver. And there are very good reasons for believing him. In my opinion, infection never takes place by bacteria against the stream. The pressure of bile coming down through the

common duct has been estimated as 700 m. m. of water pressure, by others as low as 100. But what a tremendous amount of resistance that would afford the bacteria! They have not, first, the physical ability, and, second, the intelligence to go up that duct in the proper way and proceed straight into the hepatic duct, and from there into the liver. We have been very sure for a long time that there is no such thing as an ascending infection from the bladder to the kidney, straight along the ureter itself.

Mr. Bond of Leicester, England, conducted a remarkable series of experiments, which have been repeated and found to be true. He found that he could put indigo into the rectum and it would travel up and appear at a colostomy opening. He also found that in vesical fistula he could put the indigo at the opening of the urethra below and find it afterwards traveling up the urethra. Dr. Ochsner told me the other day that since he has used Beck's paste he has found that occasionally when it is put in the uterus it is found subsequently in the abdomen. It passes up through these lymphatics that I have been speaking about—not in the lumen of the tubes, but actually in the wall.

I think that we are going to have to rewrite a good deal of pathology on the basis of this hypothesis. Infection from the duodenum to the gall-bladder does take place. It does not take place by way of the common duct, but by way of the lymphatics in the wall of the common duct. The disturbance in the kidney from the bladder does not take place by extension through the urine as it is traveling down, but it does take place in the mucous lymphatics in the walls, as they pass up. The same disturbances occur in gonorrhea. Is it because the unskilled medical man shoves the infection towards the bladder by unskillful manipulation? Probably not. It is probably because the lymphatic flow is in that direction and that, despite everything, it is carried up the urethra instead of down in the direction of the urinary flow.

This, then, it seems to me is the way in which a large number of cases can be reconciled with general surgical ideas. It has been known for a long time that there is a very close relationship between infections of the liver and biliary passages and infections such as duodenal and gastric ulcers, which I regard infectious, and which



we may some day treat with autogenous vaccines. This infection is probably twofold. Certain bacteria are undoubtedly carried by way of the blood stream, notably the bacillus coli communis and the bacillus typhosus. But in other instances the infection is not embolic, but is by lymphatic infection, coming from the region of the duodenum and of the pylorus, and the gastric side of the pylorus, up through this lymphatic channel to its destination. Having arrived in the biliary channel, it may produce a vicious circle down through the bile, into the duodenum once more.

#### SURGERY OF THE ACUTE METASTATIC INFECTIVE LESIONS OF JOINTS\*

JOHN B. MURPHY, M.D.

CHICAGO, ILL.

(ABSTRACT)

This is an epoch-making meeting, in that clinical observations that have been observed for decades are being elucidated and confirmed by clean-cut scientific experiments, showing the etiologic relationship between certain joint infections and distal primary infection lesions. The experiments of Dr. Rosenow give us a new light, a clearing up of the connection between the primary infection manifestations and the secondary metastatic lesions. We owe Dr. Rosenow a vote of thanks for his splendid paper and for his splendid work.

In Dr. Billings' presentation of the rheumatoid arthritides it is delightful to see that a master mind and a master man has finally decided to go into the human scrap heap and pick up those poor neglected and forgotten people. His explanations and elucidations of the relationship between the primary infections and the secondary slowly progressing joint lesions aid and guide us to a treatment, if not at once, at least giving us a hope that there is something in the future for these patients beside saying, "Your case is rheumatoid arthritis. Hopeless. Good-bye."

Dr. Mix has splendidly illuminated the relationship of these primary infections to another class of diseases, and his observations, from a clinical standpoint, of the relations of the primary infection to the secondary lesions in the upper abdomen—stomach, duodenum and gall-bladder—have certainly been confirmed by Dr. Rosenow's results in producing these experimental

lesions from pure cultures, generated in a definite and regular way.

The surgeon's rôle in this class of cases is necessarily small, but in 1902, when we first insisted, from our clinical observations, that these arthritides were metastatic manifestations of infections in other positions in the body, and that they were not metabolic conditions, it was considered very doubtful at that time that our position would be finally sustained, but we were positive because there was such a clean-cut definite relationship in the cycle of metastases between the primary infection and the secondary manifestation, in the way of an arthritic inflammation, that one could not disconnect the two, and, furthermore, there was a definite relationship when the infection occurred in definite positions in the body, as to the typical, uniform and almost classic appearance of the joint lesion, which also forced us to announce the fact that it was metastatic and not metabolic. Again, when the primary lesion was of the acute infective variety, the secondary lesion was of the same stormy type. Whether that was due to the virulence of the infection at the beginning or to the diminished resistance of the individual, we did not know, any more than we now know why a cancer in one individual which progresses at its primary focus rapidly always progresses rapidly in its metastases. When its primary focus progresses slowly, its metastatic lesions always progress slowly.

When, on the other hand, you have, as we have had time and again, two, four, six, eight and ten cases at one time with identical secondary joint manifestations, and you could trace each of these cases back to a primary infection in the same anatomic position in the body—a chronic lesion of a definite type—you could not fail to connect the primary lesion with the secondary lesion, as in the arthritides of alveolar and sinuses infections; typhoid, scarlet fever, pharyngitis (streptococci), Neisserian ophthalmia and urethritis, paranasal infections, tonsillitis, chronic and acute (not at all as common an etiologic factor as believed), enteritis (ulcerated), furunculosis, adenoids, cholecystitis, gripe infections of the respiratory tract, appendicitis, etc.

Again, when we have our annual "crop" of spondylitides in the fall of the year, we have each and every patient describing his attack in the same way, associated with types of infection of

\*Read before the Chicago Medical Society, Nov. 12, 1913.



the same character, and giving pain and fixation of the spine, we are forced to the belief and the insistence that the primary lesion was an infectious one, and the secondary—in the joint—purely a manifestation of that.

Then we ask ourselves, what rôle can the surgeon play? What can he do? Dr. Billings has very kindly suggested that the surgeon can restore the dislocated joint. That is not to be the only rôle of the surgeon. We have insisted for the last twelve years that the joint arthritides of the acute type, which Dr. Rosenow has tonight shown you, can and should have a definite early or immediate surgical local treatment that has a very decided effect for the final result. Furthermore, that as that disease advances our surgical limitations become more and more pronounced, until, when it is very far advanced, we have nothing to do but the carpenter work of reconstruction of the joint. But in the early stage of that disease there is a local treatment, there is a surgical treatment, and up to the present, indeed, up to the time of the vaccination treatment it was the only treatment that has availed anything in that class of cases. If a patient has an acute abscess in any other part of the body, what would you do? We used to poultice it and wait until it "ripened." Now we cut down on the primary focus and liberate the pus tension at that primary focus, and the disease is over. We would like to do exactly that same thing in the management of primary joint infections, and indeed, drainage would be indicated were it not for the fact that joint cavities will not tolerate drainage for any considerable length of time without endangering them to ankyloses, because when we expose serous surface to drainage for any length of time, we destroy the endothelial lining of the synovial membrane, and thus allow a connective tissue contact resulting in adhesions and union, and if the irritation is continued we will have an ossification across that line of union.

What do you find when you look into these joints after a virulent acute infective process has passed? Often just a local area of necrosis and ankylosis, frequently no larger than a nickel, at a point where the joint surfaces have been pressed against each other by the involuntary muscular contraction in its effort at fixation to prevent pain. This pressure during its inflammatory process causes a circumscribed necrosis or de-

struction of the cartilage and a regenerative osteitis in the ends of the bones which results in ankylosis. Where the manifestation is associated with a mild infection, and the "rheumatism" is not initiated by a chill, the rule is that no ankylosis occurs. When the "rheumatism" is initiated by a chill, which shows a virulence of infection, an ankylosis in one or more joints is the rule.

Now, with the aid of experiments with the possible neutralization of the virulence of this material, let us hope that we will find some medication that will destroy it, but until that is found let us take advantage of what we now know of vaccine inhibition and the local and constitutional stimulation of phagocytosis and the mechanical relief of intra-articular pressure of the infective products and the pressure caused by muscular contraction.

Some thirty years ago Carles produced, by injections, abscesses in different portions of the body, which were known as concentrating abscesses. Let us take his clinical observations, though he knew nothing at all about phagocytes. He found that if we had an acute infection in the knee, hip or any other portion of the body, if he would produce at a distant point a local abscess, he would have as the result of that abscess a rapid subsidence of the fever, also of the primary inflammatory process with speedy recovery. What did that mean? It meant exactly what you can demonstrate any day you desire, that by injecting 20, 30, 40 or 50 minims of Venice turpentine well under the skin, you will have formed there, very rapidly, an abscess, and while it is forming you will have a great increase in the general leukocytosis, and any infective process will be influenced by that abscess formation, which, you understand, is not a microbic abscess, but a chemical abscess, and produces a constitutional leukocytosis or a constitutional phagocytosis.

When it comes back to acute infection of joints, what can we do? Two things. We can stimulate the local resistance in the acute infections by producing an infiltration of the tissues within the joint. We can stimulate constitutional resistance by injecting into the joint material which causes not only a local increase in the polynuclears in the joint, but also a constitutional increase in the same way, as we have demonstrated innumerable times. The best material we have found for injection up to date is a 2 per cent. solution of forma-

lin and glycerine which has been mixed at least 24 hours before it is injected. From 5 to 20 c.c. may be injected into a joint. It produces a local coffer-daming of the lymph spaces in the synovial membrane and a local and constitutional polynuclear leukocytosis and greatly inhibits the local destruction. When the tension of the fluid of the joint after the injection becomes great, aspiration should be repeated, always exercising the greatest care not to traumatize the joint surfaces.

Secondly we can prevent intra-articular pressure. The tension under which the micro-organisms and the products of the microbic infection are held favors the ischemic condition of the border-line tissue, and thus favors necrosis. Therefore, if we can diminish the intra-articular pressure of the infective products by aspiration and relieve the intra-articular muscular pressure by extension, we can stop the destruction in the joint or at least limit it to a very marked degree. We have demonstrated that clinically again and again.

In addition to these aids, the proper use of autogenous vaccines in the acute infections gives us an additional and unquestionable advantage over the destructive processes in many of these cases, as shown in Dr. Kreuscher's reports.

Can we do this same thing with the chronic variety of infection? No. But we can still do much with them. During the inflammatory process we must not let luxations take place; we must not let the deformities occur, it is not necessary that they should occur.

We feel that in the deformities of joints, the treatment must be a prophylactic one and not a therapeutic one—that the joints must not be permitted to deform in the first days of the disease, and we will not have these difficult operations to perform. While the physician and surgeon may not be able to control the inflammation and prevent the ankylosis in some of the cases, they have within their power the absolute control of the malformation of the limbs through the proper application of extensions and supports in the early stage of the disease. The deformities in the acute joint infections are largely due to the position assumed by the limb to accommodate the largest quantity of fluid in the cavity at the least tension (see Dr. Kellogg Speed's report on this point in my article in "Surgery of Bones, Joints and Tendons," in the *Journal A. M. A.*, May and

June, 1912). A plaster cast should never be applied to an acute arthritis and kept on for any considerable length of time, unless one desires ankylosis, as continued fixation in acute infections favors ankylosis, while continued fixation in tuberculosis lessens the danger of ankylosis.

(Dr. Murphy then showed some lantern slides demonstrating cases of arthritis deformans.)

All I wish to bring out in this discussion is this, that every case of acute inflammation in a joint is a subject for surgical consideration the first day, that it is a subject for local treatment in the joint the first day, and that if you wait until the deformities have occurred and the joint surfaces have been destroyed, it is impossible often to relieve the deformity and the patient is permanently crippled. Many of the ankyloses, from my observation, are easily avoidable, and all of the severe deformities of the type pictured are absolutely avoidable, and completely in the control of the physician. And in the future we will be held more forcefully responsible by the courts for deformities resulting from arthritides than we are now held for deformities resulting from fractures, as the arthritic deformities are more completely within the control of the physician and surgeon than are the fracture deformities.

I desire to thank Dr. Caldwell, the president, for permitting me to outline the program for tonight's discussion, as I feel it is a subject that comes so closely to the every day work of both the physician and surgeon, and also one that has been so long neglected that it needs frequent discussion in all medical organizations.

Thank you for your attention.

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#### ECTOPIC PREGNANCY.

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HARRISBURG, ILL.

Ectopic pregnancy, or *eccyesis*, is a term used to designate all forms of gestation occurring outside the cavity of the uterus.

A fertilized ovum may find attachment and "nest" anywhere in its passage from a Graafian follicle to the uterine cavity, but as mucous membranes are the natural sites for "nesting" of fertilized ova, it follows that the tubes are the location of almost all ectopic pregnancies to the exclusion of the ovary, omentum, broad ligament and other serous surfaces as nesting sites. Hence tubal pregnancy is generally chosen by gynec-



ologists as the most expressive term in describing this pathologic entity.

"Nesting" of a fertilized ovum may take place anywhere within the lumen of a Fallopian tube and result in a tubal pregnancy. The most common sites of its nesting in the tube are its median or isthmial, its appullary or ovarian and its uterine or interstitial portion in the order named.

The function of "nesting" of a fertilized ovum is both active and passive; active on the part of the ovum in its preparation for and attachment to a receptive membrane; passive on the part of the receptive membrane which undergoes vascular and structural changes for the nourishment and protection of the already attached ovum.

An ovum may be fertilized anywhere within the genital tract of the female; but it is generally conceded that union of the male and female elements of procreation takes place somewhere within the lumen of the tube or immediately outside of the fimbriated extremity in the region of the ovary, and that after fertilization the ovum is carried through the tube towards the uterine cavity, which it ultimately reaches if not delayed or impeded in its course.

Immediately after the ovum is fertilized by the male element or spermatoza, which occurs somewhere near the ovary, it takes on a new impetus to life and begins a rapid growth by segmentation and quickly passes through the marula into the blastula stage of development, thereby acquiring the property of self-attachment by sending finger-like processes, called trophoblasts or villi into the tubal or uterine mucosa, which in response to the stimulus creeps up and over the attached ovum, completely covering and incapsulating it. Thus is formed the decidua vera and reflexa.

The length of time elapsing after an ovum is fertilized until it is capable of self-attachment to the uterine or tubal mucosa is not known, but in all probability it bears a definite relation to the time required for a normal ovum to pass through the lumen of a normal tube to the uterine cavity. In other words, the time required for a recently fructified ovum to pass through the marula into the blastula stage of embryonic development is about equal to the time required for it to pass through the entire length of the tube into the cavity of the uterus.

It will be noted from the foregoing statement

that the assumption is that a recently fertilized ovum will normally reach the cavity of the uterus at or about the time it attains the blastula stage of development, and that prior to this stage it is not capable of attaching itself to any surface over which it has passed or is then passing, as the trophoblasts or villi are not formed until the blastula stage is well advanced. Hence, it would appear that the time normally imposed for a fructified ovum to make its journey through the lumen of the tube is during the marula state, in which it is incapable of self-attachment, and that the blastula state is normally intended for uterine existence only, wherein it may find safe attachment and a normal nesting place. So we may at least theoretically conclude that any cause tending to delay the progress of a fertilized ovum in reaching the cavity of the uterus is conducive to tubal pregnancy.

Let us now consider more minutely the two stages of early embryonic development. The ovum is met by the spermatoza somewhere in the region of the ovary, probably just within the tube or possibly free in the peritoneal cavity. Union takes place and the recently fructified ovum begins its first function as an individual by a rapid and independent cell division, thoroughly distributing both male and female elements to all parts of its little, but rapidly growing, sphere. The ovum is now less than 0.01 inch in diameter, and has entered the marula stage of development, and begins simultaneously its migration through the ever-narrowing tube towards the uterine cavity, where it will cease to exist as a wandering marula and take up a fixed abode as a parasitic blastula. Here it pierces the uterine epithelium with its trophoblasta or villi, securing nourishment in a truly parasitic way, and at the same time exciting a local reaction of the underlying and adjacent epithelium which forms the decidua serotena and reflexa.

It will be seen from this description that the marula stage differs very materially from the blastula stage of development of an ovum, a thorough understanding of which may enable us to comprehend the etiology of many extra-uterine pregnancies that would otherwise remain obscure.

After fertilization an ovum may have four separate and distinct destinies:

1. It may enter the uterine cavity prematurely, *i. e.*, in the marula stage, and remain in-



capable of attachment and be discharged with the uterine secretion through lower genital tract.

2. It may enter the uterine cavity matured as a blastula and become normally attached and result in a normal conception.

3. It may be impeded in its course or linger on its way through the tube until overtaken by the blastula stage of development, or in its wandering it may enter the lumen of the tube at a belated hour too far advanced in development to reach its normal nesting place before becoming attached.

4. It may wander in the peritoneal cavity over serous surfaces and pass through the marula into the blastula stage, and, not finding suitable soil for attachment, perish and be absorbed by that ever-watchful protector and defender of the peritoneum, the omentum.

Having considered the four possible destinies of fertilized ova, we may here state that the last certainly occurs with much more frequency than is generally supposed. These never enter the Fallopian tubes, and by external wandering are lost in the peritoneal cavity, while to the first group are assigned all those that enter the uterus prematurely, and being yet unable to effect their attachment are carried with the uterine discharge out through the lower genital tract. These are they that are blighted and bear flowers, but not fruit.

Into the second group comes all normal conceptions, which range from one to twenty in child-bearing women, while into the third group fall all ectopic pregnancies, the frequency of which cannot be definitely stated, as it is generally believed that many cases go unrecognized by ending spontaneously in tubal rupture or abortion, or in sudden death to their host. We will venture to say, however, that a careful observer, doing an average family practice composed of all classes, ought to see and recognize at least one ectopic pregnancy for every one hundred normal conceptions, including abortions as well as full-term pregnancies.

In summing up the etiology of ecyesis it may be well to state that any cause or condition, whether anatomic or physiologic, tending to increase the time normally required for a fertilized ovum to make its progress from the normal site of fecundation through the tube to the normal site of implantation in the cavity of the uterus is conducive to tubal pregnancy. For instance,

an ovum may be fertilized on the right side and travel across the peritoneal cavity to the left side. Here it may enter the left tube in that stage of embryonic development wherein attachment is very readily effected while yet within the narrow and confined limits of a tube. Or an ovum, though fertilized within the tube, may on its way to the uterine cavity encounter obstructions with consequent delay in progress and result in attachment ere it can make its exit from the lumen of the tube. The obstruction producing such delays are kinks in the tube, stricture of its lumen or bands of peritoneal adhesion and other products of inflammation affecting the normal structure or function of the uterine adenexa.

Thus inflammation from previous tubal diseases may have so changed the tubal mucosa as to impair its function and render the progress of the ovum difficult and delayed. In fact, almost all cases of tubal pregnancies give histories of previous tubal inflammation when diligently sought for. Ott and Petersen could elicit an inflammatory history in all of their cases; Runge in most of his, while Mandl and Schmidt and Dührssen state that two-thirds of their cases reveal traces, past or present, of tubal inflammation. Negative results were offered by Ahlfield, who believes that the infrequency of tubal pregnancy in his practice may be explained by the fact that his material comes from a country district where gonorrhea occurred but rarely.

In 1902, Optz found definite inflammatory lesions in fifteen out of twenty-three specimens from Alshausen's clinics, and in every instance, whether such lesions were present or not, noted that the tips of many folds of the mucosa had become fused together, so that the microscopic sections frequently presented the cribriform appearance characteristic of follicular salpingitis. Moreover, he found similar lesions in the non-pregnant tube wherever it was available for examination.

He held that such condition offered very satisfactory explanation for the arrest of the ovum, as he assumed that some of the canals enclosed between the adherent folds ended blindly at one end, but communicated with the main lumen at the other. Accordingly, it would be necessary for the fertilized ovum to enter one of these cul-de-sacs, in order to be arrested and implanted, and thus lead to the development of a tubal

pregnancy. Similar observations have been made by Micholitsch and others, and can be confirmed by any observer.

This explanation has been enthusiastically accepted by many prominent gynecologists, while others, admitting that such conditions may cause the arrest of fertilized ova, refrain from giving it a too general acceptance.

But admitting the laboratory findings as previously described by Opitz and confirmed by Micholitsch and Werth in the mucosa of tubes removed for *ecyesis*, it will not explain the absence of tubal pregnancy in innumerable tubes removed for other causes having the same identical microscopical lesions of the mucosa in which tubal pregnancies have not occurred.

Again, it seems to the writer that any cause unduly increasing the time that a fertilized ovum would remain in the tube, whether or not it was permanently arrested in a single cul-de-sac, or merely impeded in its onward progress by many such obstacles at different points in its course, is quite as argumentative as that submitted above. And in further support of this argument, we wish to hypothetically state that a fertilized ovum arrested at the proximal or uterine end of the tube until the formation of trophoblasts or the beginning of the blastula stage of development might, perchance, if promptly released from its lodgment and moved on unobstructed in the remainder of its course through the tube, make its exit from the lumen into the cavity of the uterus and terminate in an intra-uterine pregnancy, instead of tubal pregnancy, while, had it met the same obstruction at the distal or ovarian end of the tube under the same conditions and had been released at the same embryonic stage of development and had remained unobstructed for the remainder of its course through the tube, it would in all probability have never made its exit from the tube by reason of that intrinsic property of self-implantation innate in the blastula stage of embryonic development, and would in all probability have ended in a tubal pregnancy.

Other predisposing causes of tubal pregnancy are: tubal polypi, tumors of the tubal wall, diverticula from the lumen of the tube, congenital narrowing of the tubal lumen, persistence of fetal convolutions of the tube, puerperal atrophy,

and external migration of fertilized ova, which has been referred to in full above.

The frequency with which tubal pregnancy occurs has not long been generally admitted. In fact, a clinician no less than Henning stated as late as 1876 that so rare was this affection that directors of large obstetrical institutions might never see a case, while at the present time any one engaged in a general practice is not long unfamiliar with this condition.

In my own limited practice of less than six years I have had the opportunity of observing five such cases, two of which, however, were in consultation, while the remaining three were cases coming under my observation as the family physician. Tubal pregnancy is not infrequent, and seems to be on the increase, as is shown by the statistics of large clinics. Thus Wormser states that in his Berné clinic the number of extra-uterine pregnancies has increased over 33 per cent. during the last decade. A corresponding increase has been noted in all large clinics, and Noble states that 3 or 4 per cent. of all his laparotomies are performed for tubal pregnancy. In 3,500 autopsies performed by Formad 1 per cent. were found to be deaths resulting from ectopic gestation.

A tubal pregnancy may terminate under the eighth week by tubal abortion, the ovum being expelled through the ostium abdominale into the peritoneal cavity and the product of conception be removed by absorption or rendered harmless by certain degenerate changes, or the ovum may perish within the narrow confines of its unnatural location within the tubal lumen and be removed or undergo changes less harmful to its host. Tubal abortion before the eighth week and early death of the ovum with the tubal retention are not necessarily and immediately alarming to the patient and may wholly escape the attention of the family physician, and may be only accidentally discovered by the surgeon in laparotomies for other presumed causes than *ecyesis*.

Tubal rupture and tubal abortion after the eighth week are clinically similar, if not identical, and constitute the causative factor of a vast majority of pelvic hematoecle, for which laparotomies are primarily done. In fact, it has been my misfortune to never suspect the presence of a tubal pregnancy until the symptoms of tubal rupture or abortion, with the accompanying



formation of pelvic hematocele, has partially or totally presented.

*Case 1.* In my first case a diagnosis, though tentative, could only be made positive in the operating room by an exploratory laparotomy. The contention was between eccyosis and appendicitis. The patient ran a temperature of 99.6 to 101 F. for two days; was operated upon the third day, revealing a pelvic hematocele from the right side and a pus tube on the left.

*Case 2.* A second case died a few hours after a diagnosis was made from internal hemorrhage. No autopsy was allowed and a positive diagnosis, of course, was not possible. But a history of pregnancy with an irregular and interrupted uterine hemorrhage for several days previously, accompanied by a displaced, enlarged, empty and patulous uterus were sufficiently diagnostic in the absence of the finding of a pelvic hematocele, which did not occur until late and with sufficient loss of blood to cause immediate death.

*Case 3.* A third case was considered an intra-uterine abortion for three days; what was then considered the product of a normal conception having been expelled on the second day with copious hemorrhage with many clots adhering to fragments of uterine decidua. The symptoms continued instead of abating with the expulsion of the ovum, which was in reality not an ovum, but the cast-off uterine decidua, and morphin 0.25 gr. had to be administered hypodermatically at short intervals to still the pain and anguish produced by the formation of the pelvic hematocele. On the third day the symptoms having become ominous to the attending physician, Dr. J. H. Rose, I was called into consultation or rather was called in his absence to the bedside of the patient and found her writhing and tossing about in the most extreme agony. No examination could be made while she was in this condition. In fact, the patient was so frantic with pain that she could hardly be kept upon the bed. So the hypodermic injection of morphin was twice resorted to before an examination could be attempted with any degree of satisfaction. At this examination, after quietude had been secured, the temperature and pulse were found to be normal and there were no symptoms of internal hemorrhage as pallor, shortness of breath, thirst, etc., but the abdomen was generally sensitive and very tender to pressure. On internal examination the uterus was found to be displaced laterally and rather low in the pelvis and fixed. It was enlarged, empty and patulous. The tubes could not be palpated in this case, especially from the extreme thickness of the abdominal walls. I do not think that the tubes often reveal any symptoms of value clinically in the diagnosis of tubal pregnancy without the aid of a general anesthetic which was not resorted to in this case.

On the fifth day following a consultation by re-

quest of the attending physician at which the family physician, Dr. Frank P. Gillis of Du Quoin, was present, it was decided that longer delay was hazardous and that surgical interference was the only remedial agent promising any definite results for the relief of the patient, which was promptly carried out with the finding of a large pelvic hematocele between the folds of the broad ligament of the right side.

*Case 4.* Another case which occurred early in my practice is most interesting from the point of history. The patient, though married and the mother of two children, the younger of whom was eight years old, was not at this time living in wedlock, but was a self-admitted prostitute. October 11, 1909, following a night's hilarity, I was hurriedly called to her home at about 1:30 a. m. At the door I was met by her consort, who informed me that following a Dutch lunch with beer she had been suddenly and violently attacked with cramping, soon after retiring for the night.

Opiates had been administered and hot water bottles applied to the lower abdomen with much relief to the patient. An examination revealed a rapid small pulse and a subnormal temperature. The patient complained of being chilly and was very tender and rigid over the left quadrant of the abdomen. An internal examination revealed nothing more than a fixed and rigid uterus, with probably some misplacement to the left, which I readily explained as the result of previous pelvic inflammation with adhesions.

On the following night, October 12, the patient was very restless and pale and showed all the symptoms of shock or internal hemorrhage. The pulse was very weak and thready and the respirations shallow and sighing. Thirst was complained of and the patient was very restless. I was told by those present (using their language) that a miscarriage had taken place and that she was flooding. On internal examination I found that there had occurred a uterine hemorrhage, but not sufficient to account for or even suggest the symptoms above described.

The cervix was patent and the introduction of a curet showed an empty uterus, slightly enlarged and displaced to the left. I could now detect a distinct bagginess at the posterior vaginal fornix. In fact, the whole upper vaginal tract seemed to be crowded and the uterus seemed lower in the pelvis. This I recognized as a pelvic hematocele and recommended an operation, which was promptly denied, with the suggestion of considerable dissatisfaction with my treatment. After attending the patient's immediate need, which was along the line of internal hemorrhage, I departed and never heard from her for nine days. I may state here that I considered myself dismissed; in fact, I am sure I was so considered by the friends of the patient.

October 21 the patient appeared at my office and again by appointment on the 25th and 26th of the



same month. On each visit a combined recto-vaginal and abdominal examination showed the presence of a mass in the cul-de-sac. November 5 she again took to the bed and was unable to be on her feet from an unbearable pelvic weight, when standing or walking, accompanied by severe pains in the small of the back radiating to the thighs and sacrum.

I never saw the patient again until November 18, when she again called at my office, somewhat improved but complaining of a fullness in the rectum with excruciating pains on defecation. An examination revealed the presence of a mass in the cul-de-sac, as referred to in previous examination, with some signs of softening. I recommended that the cul-de-sac be opened vaginally, but that she would not submit to, and the patient again disappeared for exactly one month. December 18 I was called to her home and found her suffering with an intense rectal tenesmus with a burning, throbbing and very painful tumor of the anterior rectal wall. Her pulse was 96 to 100, her temperature was 102 to 103 F.

December 20 I called and found the patient very comfortable indeed. The rectal abscess which had formed from the pelvic hematocele had ruptured and its very copious contents discharged per rectum. The patient improved from that time on and was up and about by December 27, the date of my last visit.

*Case 5.* The fifth and last case occurred very recently. April 26 last I was first called to attend the patient at her home. I found her frantic with pain. I could not even count her pulse or take her temperature, so at her urgent request for a hypodermic I immediately administered a 0.25 gr. of morphin and waited thirty minutes for results, which did not come until the second injection had taken effect.

I ascertained that she had become very suddenly ill five days before, with a pain in the region of the right ovary radiating down the thigh on the same side. At this time she was away from home. A physician was called and morphin administered hypodermically and opiates were left, which constituted the treatment she had received.

April 22 following the first attack she had a second attack, which was not so bad as the first, and also on the evening of April 24 while preparing dinner she was suddenly attacked again on attempting to reach for something on a shelf above her head.

So severe was the pain that the patient was almost stricken down and had to be assisted to bed. The same physician was called and she received the same treatment as for the first attack. She remained in bed all day following the third attack and until nearly noon Saturday, April 26, when, on attempting to get up from the bed she was again attacked, with the results as given in my account of the first visit. At this time after the patient had gotten quiet an examination was made which revealed a normal temperature and pulse.

I elicited a distinct history of pregnancy for the previous two months, but during the last week she had had slight uterine hemorrhages with each attack, as above referred to and was at this time wasting slightly.

The abdomen was so sensitive that it could hardly be touched, especially in the right lower quadrant. I may state here that vomiting was a prominent symptom in all of these attacks, and the patient was never free from nausea after the first attack.

An internal examination revealed a uterus displaced to the right, slightly enlarged and empty with a gaping patent cervix. I accordingly made a diagnosis of a tubal pregnancy and advised that the patient be removed to a hospital for an operation, to which the husband very readily consented, but finding her condition so good on returning a few hours later, I decided that she remain at home for another twenty-four hours and await further developments. She passed through the night Saturday and all day on Sunday following without an attack until Sunday night, while straining at stool, she was again attacked with the most violent pain and rapidly showed signs of shock. I was called and an ambulance at once hurried the patient to the hospital, where, after consultation with Drs. Nyberg and Cummins and Dr. Turner, the patient was put upon the operating table and the belly opened, which confirmed our diagnosis of a tubal pregnancy with rupture. A large pelvic hematocele had formed between the folds of the broad ligament on the right side with a considerable quantity of extravasated blood in the free peritoneal cavity. The clots were removed from between the broad ligament and the cul-de-sac sponged out.

The right tube when removed revealed a rupture in the isthmus. The ovum, which was about the size of an English walnut, was not ruptured and was still *in situ*. Adhesions of the right adnexa, though rather extensive, were not firm. There were no adhesions on the left and the tube and ovary on that side seemed to all appearances perfectly healthy. On the second day following the operation the uterine decidua with some pain was expelled almost intact.

In conclusion I will state, though not offering it as a solution of the etiology of this case, that the left ovary instead of the right which was removed with the affected tube contained the corpus luteum of pregnancy.

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### MEMBRANOUS PERI-COLITIS\*

H. C. MITCHELL, M.D.

CARBONDALE, ILL.

The literature on this subject is so very meager, that in writing a paper I am compelled to give only such facts as I have gathered from a limited

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\*Read before the Southern Illinois Medical Association, Nov. 7, 1913.

experience of eight cases, two of which I am reporting.

To many of you who do surgery this disease may have become of common occurrence, and if so, I trust you will give us the benefit of your experience in the discussion.

I have been operating on these cases only for the past two or three years, but the results so far have been very gratifying.

While these cases are not of frequent occurrence, yet it is very important that we observe them when they do come, as our success or failure in that particular case depends on our recognizing and operating on them.

I think all of us have sometimes operated when we felt pretty cock sure that we had a case of chronic appendicitis, disease of the adnexa of the uterus, a stone in the ureter or pelvis of the kidney, or cholecystitis, and felt quite sanguine that we would relieve the difficulty with an operation, only to be disappointed in the end. As you well know, it puts your patient in anything but an amiable frame of mind to have his pains continue right along after he has been put to the expense and danger of an operation, as well as the promise from his physician that he would be relieved.

This condition was first described by Dr. Jabez N. Jackson. Other operators had observed it prior to his doing so, but none had described it as a pathologic condition before Jackson, who called it membranous peri-colitis. It has been frequently called Jackson's veil, and consists of a thin veil-like membrane that has its origin on the abdominal peritoneum of the right side and extends downward in a horizontal or diagonal direction, spreading out over the ascending colon.

In the severer forms it covers the entire ascending colon and cecum. In several cases I have seen it covered the appendix so completely that unless the operator was thoroughly acquainted with the anatomy of the parts he would be apt to overlook it. In more than thirty per cent. of the cases I have treated the membrane not only covers the colon, but spreads out over quite a large area of the omentum and is attached to it by strong adhesions and forms strong adhesive bands that interfere with the free peristalsis of the bowel and especially the colon, causing chronic constipation; as all the cases I have observed were affected with long-standing constipation.

They come to us with a history of pains and cramps in the right side of the abdomen. In the majority of cases the pain extends upward from McBurney's point rather than downward into the pelvis. In some instances the pain extends over the entire right side as high up as the hepatic flexure and pancreas. There is tenderness to pressure on the right side, the greatest tenderness usually being a little above McBurney's point. The pain usually comes on a few hours after taking a meal, and is often so severe that they will require a hypodermic injection of morphin to relieve it, but in the majority of cases they do not require a hypodermic, but go from one physician to another, seeking relief by medical means until the list is exhausted, when they apply to the surgeon.

For the first few months or years the pain comes on paroxysmally after eating, but gradually becomes more constant until the patient is hardly ever entirely free from pain. The pain simulates, and in fact is more often diagnosed as chronic appendicitis than anything else.

As I stated in the beginning of this paper, my experience has been confined to only eight cases, two of which I shall narrate.

Case 1. Mr. A. D.: Family history, negative; occupation, bartender; age, 30 years. Said for the past two years he had taken as many as twenty to forty drinks of whisky daily, but for two months prior to his coming to me he had drunk nothing. He gave a history of cramps in the right side, usually coming on a few hours after eating. The pain was so severe that it had to be relieved with hypodermic injections of morphin on two occasions. At times he would be practically free from pain for a day or two and then it would return. He decided that his drinking perhaps had something to do with it, and for that reason he quit, but after abstaining from drink a few weeks the pain was worse than ever.

The pain would always start in the right side, usually two or three inches above McBurney's point, and would radiate upwards as high as the hepatic flexure and stomach. After the pain was relieved he would invariably belch a lot of gas from the stomach. He stated that there had never been a time when there was not tenderness to pressure over McBurney's point. He also said that he had never had any fever so far as he knew. He was obstinately constipated and had been for nearly two years, and had taken treatment from a number of physicians without obtaining any relief. He had been examined many times with about as many diagnoses, such as appendicitis, gastralgia, gastric ulcer, stone



in the pelvis of the kidney, stone in the ureter, cholecystitis, etc.

I was inclined to think it was appendiceal colic, due to his obstinate constipation.

I operated on him April 8, 1911, and examined carefully all the viscera, such as the stomach, ureter, kidney and gall bladder, but found them all healthy, as well as the appendix.

The entire ascending colon and a considerable part of the omentum were covered with the Jacksonian membrane. I decided that his pain and constipation were caused by the constricting membrane that covered the colon and omentum and prevented the free peristalsis of the bowel and especially of the colon. I removed only the membrane and not the appendix. It has now been two and one-half years since his operation and he has been and is still free from pain and constipation.

Case 2. Mrs. N., mother of four healthy children, no miscarriages; family history, negative; had always been healthy until the last two years, when she began complaining of pain in the right side, a little above McBurney's point, and radiating upward as high as the hepatic flexure, and sometimes spreading over the entire abdomen. A few times she said the pain was so severe that she had to have a hypodermic injection of morphin. The pain would come on soon after taking a meal and for the first year the pain was entirely paroxysmal in character, but later was almost constant, but severer an hour or two after eating.

About fourteen months after the beginning of her trouble she entered a St. Louis hospital and had her right ovary and tube removed, but the appendix was pronounced healthy. She was free from pain only so long as she remained in the hospital and the bowels were kept moving.

Three months later she applied to me for treatment and I diagnosed chronic appendicitis and advised an operation for its removal, which I did, but with practically no relief except so long as she remained in bed and kept her constipation relieved. Two months later she came to me again, still suffering as much pain as ever. I advised an exploratory operation to ascertain, if possible, her real trouble. The first operation I made through a two and one-half-inch incision, pulling out the appendix and removing it, and did not examine the other abdominal viscera.

At the second operation I made a four-inch incision and examined carefully all the organs, but found them all healthy except the colon and the omentum that lay in close proximity was covered with the Jacksonian membrane, which I removed. In this connection I wish to say that I would advise ligating the membrane before removing it, as this case was followed by quite a little hemorrhage. Had I not operated through too small an incision I would have discovered the peri-colitic membrane at the first operation. I rarely ever open the abdomen any

more without making a free incision so I can inspect all the abdominal viscera, as I am sure that on many occasions we overlook the primary trouble by attempting to operate through too small an incision.

This woman left the hospital practically free from pain and at the end of five months she is practically well.

The other six cases operated on were all free from pain when they left the hospital. One of them I heard from three months after the operation and two of them I heard from two months after leaving the hospital and they were all doing well. The other three I have heard nothing from since leaving the hospital.

## MEDICAL IDEALS AND THE COUNTY SOCIETY—A BOOSTER SERMON\*

ROCK SLEYSER, M.D.,

Secretary Association County Secretaries and State Officers, State Medical Society of Wisconsin.

WAUPUN, WIS.

About the first of the year I received a cordial invitation from your president, Dr. Oliver, to come from the wilds of Wisconsin to a meeting of the Illinois County Secretaries in May and take a part in the program. The letter from your president excited me greatly, for while I am brave with a quill and a pot of ink, I am a coward on an occasion of this kind. Like the true native of the "wild and woolly" north, I am sure I show off to better advantage among Indians and lumber-jacks. It was only after mature deliberation that I decided to accept the invitation. I talked the matter over with several of our big chiefs and medicine men and they one and all advised me to stay at home and to beware of "them city doctors."

Of course, this was not exactly encouraging, but I wanted to explore and see what Illinois doctors looked like. I looked up "Oliver," and found it to be a Hindoo name meaning "hustler." Peoria was represented on the map as a large city the other side of Chicago, and I determined if I could get through Chicago alive, I might be able to fill the engagement and get back to Wisconsin with a report on the warriors of Illinois. I have made close observations all along the trail. Since I have been here I have studied the species here represented in a critical way. I

\*Read at the County Secretaries' Conference, Peoria, Ill., May 20, 1913.



have determined that doctors are pretty much the same wherever you go. They have the same joys, the same sorrows, the same obstacles to overcome, and, in the end, the same trouble to get their pay. You think of our tribe as living harmoniously in a fairy land of whispering pines and silvery lakes well stocked with goldfish. We think of your hunting grounds as a rolling prairie of corn, each acre of which supports a prosperous farmer with a dozen children subject to measles, adenoids and whooping cough. This is human nature, and, contrary to some opinion, I want to say that the doctor is quite the most human being alive. I have never known a doctor who amounted to anything to be quite satisfied. When one does reach that stage he ceases to grow. It is this same yearning for more work, bigger work, newer work, better work, that brings together men engaged in the same work that they may benefit by another's experience. It is the desire to learn, not to teach, that has brought me to Illinois today. I want to learn how you have made such a success of your county societies. It is the desire to learn the methods of your neighbor that has brought you to this conference of county secretaries. The desire to learn more of the science and perfect the art by the experience of others is the true motive back of every man's attendance at a medical meeting. This, rather than class advancement, is our first prime motive, and God grant that we never lose sight of the high ideals of the fathers of this society.

The county medical society is not a trade union; a business organization; nor a conference devoting its time and energy to a discussion of hours, pay, cost, competition, restraint, market or finance. It is an organization of men who have taken for their life work an art made sacred by the Healer of Bethlehem, an art respected throughout the ages as above trade or commerce in its unselfishness and below none in its high ideals and devotion to humanity. The work of the county medical society is to make bigger, broader, kindlier, men—men who can go out from its meetings not only more skillful and learned in their science, but more worthy the respect and confidence the degree of Doctor of Medicine should bring. The public have a right to demand a greater degree of manhood in the medical profession than in those engaged in any other line of work. It has a right to demand that the man to whom is entrusted the life of

the support of a family shall be skillful and abreast of the times. It has a right to demand that the man in whose care a life is placed shall be honest, truthful and thorough. It is just in the demand that the man who is called when the mother goes down into the valley and kisses the white lips of pain, be a man in every sense of the word. Gentlemen, the main function of the county society is to make men.

If our profession is not held by all in the high regard that it should be, no one is to be blamed but ourselves. Have we lived up to the ideals of our profession? I ask you how long an army fighting among themselves would inspire confidence? How long could any body of men, united in a common cause, retain respect if rent by internal strife? The war of schools, and pathies, and sects; the bitter struggle of individuals everywhere who have placed self above their work; the pretensions of the unfit; the dishonesty of the few; the fee-splitting of the money-mad; the ill-spoken slur or sarcasm of the jealous—these are the things we have given the public to judge us by. Men engaged in God's noblest calling; men working in the same cause, fighting under the same flag; men to whom are trusted the secrets of a family too sacred for even the confessional; men who have given even life itself in the fight of others against the grim reaper; have stooped to speak ill of a brother in the same work. If there is aught we lack in the public respect or esteem, we ourselves are alone responsible. God will not ask from what school you are a graduate, what honorary degrees you have, what scientific discoveries you have made, what medals you have won. He will ask if you have tried to make your work, your profession, your world better. He will ask if you have worked with your brother or against him.

Let me repeat! The main function of the county society is to make men—to make men and inspire them with ideals. Now there is but one place in which to keep ideals and that is in a warm heart, a glad heart, a kindly heart. A heart can not hold ideals and hatred or jealousy at the same time. The two are incompatible. The man who clings to the hatred does so at the expense of the ideals and he is the loser. The garden of his heart grows a harvest of weeds. It needs cultivation and the place to cultivate this garden is right in the county society. Did you ever notice how hard it is to spend an evening

with a medical fellow you hate, to stretch your legs under the same table with his, to listen to the same talk you are equally interested in, to look at him through a haze of smoke that comes from cigars of the same box—and go on detesting him? Did you ever, under the circumstances, find yourself thinking: “Well he doesn’t seem to be such a bad sort! Maybe if I knew him better—. Perhaps I’ve been too eager to believe all I’ve heard?” Did you ever try to pass him the next day without speaking? You could not do it! “Blood is thicker than water”—he is your kin! And do you remember how happy you were all day because he stopped and shook hands with you and called you “Bill?” What brought about the change? Simply the opportunity of learning to know each other—the chance to “get together.”

Other professional men are brought together at frequent intervals. The nature of their work makes it necessary. The practice of medicine is an isolated work and we have had little chance to learn to know our fellow workers except through the medium of the county society. The man who does not embrace this opportunity lives by himself and try as he may cannot be in tune with others. Isolation breeds suspicion and suspicion is the mother of two degenerate children—hatred and retrogression. They may be likened to weeds. The man in whose heart these weeds are grown is a danger to himself, to the community in which he lives, and to his profession. It is the work of you county secretaries to see that these pests are not allowed to grow! They poison all about. We have a specific for this in the county medical society.

Few men can resist the good cheer and elevating influence of a good meeting. Make these meetings interesting, cordial, informal, enthusiastic—make them irresistible; and get your men out if you have to send the sheriff after them. They soon get the habit and come without urging. Even the most hardened old “heathen” will arrive at the stage where he looks forward to the meetings if you can get him started. The county society holding frequent, regular and well-attended meetings is doing a splendid work even if lacking in scientific spirit. It is creating a united profession; establishing an era of co-operation, mutual understanding and brotherly love. The members have met in a friendly way, have laughed over and settled little differences,

and have gone home with a kindlier feeling toward the neighbor who occasionally “gets into my territory.” The program may be forgotten long before the pleasant remembrance of a competitor’s hearty hand-shake, but the meeting has not been a failure if the fraternal feeling has been raised in a single instance from zero to a pleasant summer heat. “For it’s always fair weather when good fellows get together!” Get your men together—this is the big problem of the county secretary—get your men together!

The county medical society has two obligations to fulfill. Its first duty and consideration is to the public—its second to the medical profession. Whatever it furnishes its members in inspiration, knowledge or ideals reverts directly to benefit the public. The county medical society differs from any other organization of workers in that it is not a “business” organization. No other group of men band themselves together to use their best efforts to unselfishly destroy their own market as do physicians in their work in preventive medicine. The public should be made to understand this. It should realize that the county society is primarily for them, and for the members only in the educational sense. It should know that the physician who leaves his home and practice to attend a medical meeting does so in its interest, and that the medical man who stays at home for fear of losing a dollar is placing money value before its welfare. The public should understand these things. It is the duty of the profession to enlighten it, and when it does understand and realizes the importance of medical organization, no man can afford to remain outside.

Speaking broadly, then, the most successful society is the one that best serves the public. How can your society best serve the public? Mind you, I am speaking now of the things that go to make a successful society.

1. It should have a full membership.
2. It should hold frequent, well attended meetings.
3. It should inspire its members with high ideals and develop a fraternal and friendly feeling.
4. It should accomplish active, progressive, scientific work.

Let us consider briefly these four requirements of the successful society.



## MEMBERSHIP

The county society is the place to forget and efface personal feeling. It is in no sense a "club" or "social" organization. It should never hear the words "politics," "ins," "outs," "factions," or "cliques." Narrow, indeed, is the man who says, "If So and So joins, I will resign." He places personal feeling above the good of the public and his profession. The county society should have as a member every worthy eligible physician in its jurisdiction, and no organization is working at its best or accomplishing the maximum of good until its membership is complete. How can we make our membership complete? Let us spend a little time on this, for unfortunately nearly all of this work falls on the shoulders of the over-worked county secretary.

Right here I wish every member of your society could hear me. The average member says to his county secretary, "Bully for you—you are doing splendidly!" and thinks that, because he is, there is nothing to do. Now it isn't right to let the secretary enjoy a monopoly on all of the enthusiasm in a society. Many a good secretary has been spoiled by being allowed to maintain a corner on this necessity. Please carry this message home with you and mail it to every member. Every member should be a booster for his society! He should speak always a good word for it; praise it as the *best* society in the state; think of it as the *best* society in the state; and, in just a little time, it will be! "Nothing succeeds like success!" If every member will boost a little, his society will appear so attractive to the non-member that he will want to join.

For several years I have urged that the county societies of Wisconsin take up the matter of membership at the annual meeting as the most important business. I have urged the appointment of a "Booster Committee," whose duty it shall be to see that no effort is spared to secure the membership of every eligible and worthy non-member. This committee should get together and talk over every man in the county not a member. Each has his individual characteristics and must be studied and approached with a different argument and in a different way. Jones is selfish—he must be shown the value for his money! Brown is indifferent—we must appeal to his pride and show him the advantages of membership. Smith has a grievance which calls for soothing treatment. Then again, A may have

the greater influence with Smith, B with Brown and C with Jones. This committee should study the county; make definite, business-like, well-laid plans; and then—carry them out! If they would do good work and gain results, they should see each man desired and make a strong personal appeal. Letters help, but you know we doctors were never proficient at "absent treatment." As a rule we talk more convincingly than we write, and it's a lot harder to say "No" to you than it is to forget to answer your letter.

Some times an outsider can do more with a man who fails to respond to repeated requests. In this connection do not forget your councilor and state secretary. They are always glad to come to your aid. Three years ago I supplied each county secretary in Wisconsin with report blanks which could be fitted into a binder indexed with the names of the county societies. I asked for the following information on every eligible man whose application they had been unable to secure. The report read as follows:

"Report on Dr. .... of ....., Wisconsin. Eligible, but not a member of ..... County Medical Society. Age ..... Graduate of ..... Year ..... Has he ever been a member ..... When ..... Why not now ..... Detail what efforts have been made for his application. His reply or excuses ..... Could he more conveniently attend another society..... Which..... Remarks and suggestions ....."

Nearly all of our county secretaries sent me some names. Of course, it was impossible for me to see these men, but, with the information given, I was able to write an intelligent personal letter and follow it up a week later if I had no reply. I took up one county at a time and published in our *State Journal* at the same time a series of short "Booster Sermons"; with the result that, at the end of the campaign, I had personally received 132 applications for membership in addition to a good number that were sent direct to the county secretary. I mention this merely to show that often a councilor or state secretary can be of help if you will only call on them.

## ATTENDANCE

I named the second requirement of a successful county society as "frequent and well attended



meetings." Unless the members be scattered over too large a territory, I believe this rule will hold as generally good: "That monthly or, in cities, bi-weekly meetings will be better attended than those held at longer intervals." Attendance becomes a habit and interest is not allowed to wane. If you will show me the attendance record of a society I will tell you twelve times out of ten what kind of a secretary the society has. A lazy secretary will not get a good "turn-out" for the reason that many of the members require a human alarm clock "on the job."

The practice of merely mailing a postal notice a few days before the meeting will answer for the "regulars," but is not enough for the others. I strongly advise mailing a program, which gives, in smaller type, the program of the following meeting—this that the men may prepare ahead for discussions. To those who need extra effort, I would enclose a little personal note with the program. A day or two before the meeting follow with a postal which may be only a line, "lest you forget," or "last call," and sign it "Boosterly yours." If some man is especially hard to get, telephone him the day before the meeting. When these men do come tell them how glad you are to see them and make them "at home." When they miss a meeting, write them a little letter next day and tell them that you were sorry not to have seen them at the meeting; that you know they must have been unavoidably detained, but that you will hope to see them next time. And don't forget to tell them what a dandy meeting and good time they missed! Now you may call this "sapoviridis," but old man Human Nature likes personal attention; it isn't much work; a few of these treatments make the patient a regular attendant, and, what's the difference, it's part of the job of being a county secretary.

The character of the meeting is a big factor in drawing an attendance as well as in promoting a fraternal and friendly feeling. The program should be made out a year in advance and a printed copy sent to each member. In addition to this the monthly bulletin as issued in a number of your societies is a great help. Do not overlook social features! The banquet and smoker will do more to get doctors together than anything of which I know, and especially do they appeal to the non-member. They break down all barriers and we are content to meet as doctors only rather than as the only doctors. We meet

at these functions on the same level and learn to push together, and you can't quarrel in a side by side push. The man we have regarded as a "cussed outlaw and pirate" (because our patients told us he was), appears through the haze of an after-dinner cigar not unlike ourselves, and we learn to know him as he is. Plan to have at least two social functions a year. Outing and picnic meetings are being successfully held in many places and one Wisconsin society holds an "annual automobile run."

There is little I can tell you about the fourth requirement of a successful society, the scientific work, as each society must face such widely different conditions that details are best worked out independently. Speaking in a general way I would say: First, plan your work far in advance and with a definite point in view; second, encourage discussion; and third, never let your members forget the importance of any interesting clinical cases they may have. I cannot speak too highly of the post-graduate courses as outlined in the *Journal of the American Medical Association* by Dr. Blackburn. This may supplement or in part supplant the usual formal meetings, and the fact that a society is small is no reason why it cannot be successfully carried out.

We must never lose sight of the fact that the county society is working primarily in the interest of the public and while we are educating ourselves, the public, through the county society, should be educated to an appreciation of medical ideals. It should be taught the true relation of the physician to society. It should know and understand what medical organization stands for, that we may receive the co-operation of the people in the work we are trying to do for them. Hold an open meeting each year. Invite the clergymen, the teachers, the lawyers, and the editors. Get in touch with them and make them your co-workers.

To be a secretary is not only to be honored but to receive a great responsibility. A society is usually what the secretary makes it. You are the life of the organization and largely dictate and outline its work and policy. Your labor exceeds your reward and yet, the results a good secretary can accomplish are worth the effort a thousand-fold. What has been accomplished in the last few years for the profession at large, you can do at home. With high ideals of constructive work,

with unselfish ambition for the elevation of the profession, with energy to fight for all that is right and against all that is wrong, you local secretaries can build for the profession of your vicinity a place in society lower than none. And so, gentlemen, I urge upon you a full realization of the great possibilities of your positions. Yours is the world of medicine! The profession of Illinois has placed in your hands the welfare of organized medicine in your state and this means the welfare of the people. It is a trust you cannot consider too seriously. The possibilities of the work you men can accomplish are boundless, for it is the work of making men.

If you would be successful secretaries be optimistic, never lose faith, never admit that the work you lay out or the ideals you cherish cannot be realized. Make generous use of "Boosterism," for it is a heart stimulant! It is a strychnia for doubt—a digitalis for failure. It brings joy, and faith, and a strong hand-grasp. It helps you to know your brother, to work with him, to believe in him and to love him. "Boosterism" will heal bruised hearts, mend shattered hopes, cement broken friendships, grow new ideals. Be a booster—always and succeed!

"Somebody said that it couldn't be done,

But he, with a chuckle, replied

That 'maybe it couldn't,' but he would be one

Who wouldn't say no till he tried.

So he buckled right in, with a trace of a grin

On his face.\* If he worried, he hid it.

He started to sing as he tackled the thing

That couldn't be done, and HE DID IT!"

I want to thank you gentlemen for the opportunity you have given me to come to your meeting and make your acquaintance. I am proud to know you secretaries of Illinois and I trust that some time the acquaintance may be renewed. This has been a day I shall long remember.

#### SINCE I WENT TO CHICAGO.\*

A. C. RAGSDALE, M.D., C.M.

CREAL SPRINGS, ILL.

The title of this paper might be construed to cover everything—any occurrence that might

have taken place "since I went to Chicago"—but this being an assembly of medical men, I am only supposed to speak of medical matters, or happenings, "since I went to Chicago."

An experienced reader learns to read between the lines, and we sometimes "see the handwriting on the wall," if we are careful to look, long before the thing actually happens. "There is something in the wind," so to speak, which should interest every medical practitioner in the state of Illinois. Chicago is a big city, one that all Illinois is proud of, but we are more proud of physical and commercial conditions there than we are of other conditions which are in propagation or course of development and evolution, and which are now being brought forward or put before a select few to be passed upon and forced upon the rest without their consent or consideration. The great College of Surgeons, which you have no doubt heard of, is going to hold a meeting to discuss whether you and I are competent to do surgery, and whether we must be legally restricted to the practice of minor and emergency surgery. Where is the line to be drawn between minor and major surgery?

I went to Chicago. I went to see and I saw. I expected to see the great surgeons operate and I saw them. Saw one doing a major operation let his knife fall to the floor, saw it picked up and put to work again without being sterilized. Of course, I only saw this done once, but it should never be done by one of the great Chicago surgeons who are away up in "G" in the Congress of Surgeons, who want us to bring them all our cases, and because we choose to do a little operating they want to legislate us out of business, "since I went to Chicago."

I know I am a small potato, and I feel my littleness when compared to some of the Chicago surgeons, but my knife is just as sharp, my tourniquet just as competent to stop blood, my hands are steady, eyesight good, never "get rattled," there is no source of information open to them that is not equally accessible to me, and I can understand the English language when I read it, can look through a microscope, a cystoscope, can make a blood count, analyze urine, sputum, etc., and have access to laboratories all over the country to do my analytical work if I do not wish to do it myself, just like the Chicago surgeons do it, and last, but not least, I am an *American*

\*Read before the Williamson County Medical Society, at Carterville, Ill., at the September meeting, 1913.



*citizen*, entitled to all the legal rights, privileges and immunities belonging thereto, and no man in America is entitled to more. All of us are supposed to be sensible. Our brains are normal, or at least, we would be offended at any one who would say they were not. We have all completed the requirements alike imposed by the state, and graduated in medicine, and all have been licensed alike to practice without any distinction as to competence, and now come along a few who want to draw a line between the so-called competents and the incompetents, and not allow one class to step across the line into the other class without first being registered and paying a fee and renewing yearly thereafter by paying said fee, all since "I went to Chicago."

Now, let's analyze a little. We all know that the number of medical colleges is being cut down and that there is a smaller number of recent graduates turned out now in proportion to the number of teachers. We also know that country doctors are being better educated now than formerly, and that they are doing more surgery now than ever before in the history of medicine. Also, the city surgeons are conducting free clinics to which hundreds of people are going who are able to pay, and these facts are becoming alarming to a few of the city surgeons, and they have started this nonsensical thing with a hope of forcing the country doctor to send all their cases of major surgery to them. We have plenty of city surgeons who are honorable enough to stay out of this organization, and they are the ones that will deserve the patronage of the country doctor and not the one who wants to get the cases by force of law.

A man's ability should be the only standard to judge him by. The public soon learns the reputation of the physicians in their neighborhood, and we all know that public opinion is the supreme ruling power in this country and all other countries. Public opinion elects presidents. Public opinion dug the Panama canal. Public opinion has thousands of times prevented the enforcement of the law. Public opinion changes the form of governments, overthrows kingdoms and is the highest human power of the universe. Then why not let public opinion decide the competence of the surgeon and give the patient his inherent right to choose his own medical attendant? Suppose a great accident should happen

in a community where there was no licensed surgeon, or one the patient did not want. What is to be done? Go to Chicago!

Would a strangulated hernia be major or minor? Could the patient wait in all cases for the major surgeon? Plenty of other instances could be cited. Class legislation is always fostered by the class it is intended to benefit, and *never* by the majority. Then who would it benefit? Who has the greatest mortality, the surgeon in the large city, or the small town? The answer is easy for one who has had the opportunity to make observation. It is an absolute impossibility for surgeons in large cities and general hospitals to be as aseptic in their work as one can be in a rural district. In the latter one is not surrounded by all kinds of infective material exposed to contagion, bad air, bad ventilation, etc. *All* homes in the country are not safe to operate in, but most of them can be made safe by taking a little pains to prepare the room.

This proposed plan is to organize the "American College of Surgeons, charge an initiation fee of \$25.00 and annual dues of \$5.00, and issue to members a diploma conferring the degree "Fellow of the College of Surgeons" (F. C. S.), and make it an offense for anyone not a member to practice major surgery. If a member should fail to pay his dues and be dropped, he would have to discontinue his major surgery until he paid the \$5.00 and was reinstated. Did anyone ever hear of such rot? I never did, till I went to Chicago.

A bill was introduced in the legislature of Illinois in April to regulate the practice of surgery to conform to this so-called College of Surgeons, and the bill provides that no physician "shall perform any surgical operation other than that of minor surgery and family practice or emergency surgery" unless he has been licensed in surgery by the State Board of Health. To secure this license he must pass an examination before a commission of licensed surgeons composed of one member nominated by the Governor of Illinois, and one member nominated by the "president of each university in the state of Illinois having a medical department recognized by the State Board of Health as complying with the rules and regulations of said board." This excludes from representation in the commission all duly chartered medical schools not affiliated with any



university and those which are not departments of universities not located in the state of Illinois.

The candidate for the right to practice surgery is not eligible to take the examination unless he has been in practice five years or over, has had at least one and one-half years' experience as an interne in a hospital, or has studied surgery in a graduate school of an American university for at least one and one-half years, or some foreign university for one and one-half years, or been engaged for three years as an assistant to a surgeon duly recognized by the State Board of Health. Now, why this *extra half year*? There are numbers of physicians who have had one year in hospital work as an interne, but few who have had the extra half. The answer is obvious. To cut them out, of course.

If the line should be drawn between major and minor surgery, on which side would they place fractures and dislocations? Tracheotomy? In the latter, would the patient live till a Chicago doctor could be sent for? Where would they place hepatic abscess? Carbuncle? Tonsillotomy, and innumerable other cases the physician has to encounter?

The facts are these: We were taught to do surgery, were licensed to do it, and we are beginning to find out that we can do it as well as any other fellow, and we know that city surgeons are human beings, just like ourselves, then why is it that it has become necessary to enact such a law. The city surgeon is becoming alarmed. His country cousin is waking up and asserting his right and the city fellow has reached the point where he must depend upon *skill* and not legislation to get business. He is now in *competition* with his country cousins, who are getting business which he wants. What physician at this day of advanced thought wants to send all his cases with good fees to the city and keep the ones that pay the small fees? Not I, since I went to Chicago.

The difference is this: In the country we have to depend upon our reputation among the laity to get business, while the city surgeon has to depend upon the country doctor. There is where this whole trouble has originated. Conditions are changing, the number of recent graduates are

falling off rapidly on account of higher medical education and entrance requirements. The country physician of today is quite a different man from that of twenty-five years ago and the city surgeon has either got to fall in line and help legislate the country doctor out, or bring himself in through his reputation among the laity. Some great changes will take place soon. A few bosses can manipulate things for a while, but their final fall is inevitable, as has been frequently demonstrated. About the time they think they own the whole country, public opinion steps in and the bosses step out. My advice is to assert your rights. Fight for a square deal and never quit till you win. There are thousands of good physicians and surgeons in the cities who are willing to be measured by their ability and who will treat a country competitor with proper respect, but when you come in contact with one of these extremists give him rope and let him do the rest.

In conclusion, I want to urge the profession to be independent. Fight for your rights and do not allow a few bosses to enact legislation of this kind while you glide along unsuspecting a lion in lamb's clothing. It is my opinion that a list of the names of those agitating this question should be kept for future reference and all patronage withdrawn from them. In a sense they are the worst advertisers in the profession, and they only object to advertising men when it applies to a competitor, "since I went to Chicago."

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—The University of Cincinnati is said to be co-operating with the city health department in the inspection of foods and examination of samples of milk, etc., by students in its public health courses. This is entirely practicable and is a further development of such work as carried on in some public schools. In the latter case, however, the publicity feature is left to the students who can be relied on to report the findings to their families who in turn will turn down the milkman who furnishes dirty, skimmed milk. If, however, it is intended to prosecute dealers who do not comply with ordinance provisions, some difficulty might be encountered in proving a case with such evidence.

# ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society, under the direction of the Publication Committee of the Council.

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JANUARY, 1914.

## Editorials

### COLIC IN EARLY INFANCY.

Pain and crying in the infant are mere protective reflexes and as the infant is a mere bundle of reflexes slight stimuli are sufficient to elicit these reflexes. A little later in the infant's career the babe may insert its finger into the mouth or pull its ear or give some other focalizing indication. During the first few months the only reflex responses to pain are crying, contraction of the abdominal muscles and flexion of the legs. Abdominal pain being of such common occurrence these phenomena are usually considered sufficient for a diagnosis of abdominal pain; if a careful microscopic examination be made of the bowel movements at such times there is frequently found evidence of some digestive disturbance sufficient to cause the symptoms. On the other hand there are many of these cases in which the most painstaking examination of the stools fails to show cause for the constantly recurring abdominal pain and to this last group of cases is given the name of dysperistalsis.

Dysperistalsis or inco-ordination of the motor functions of the intestines is the commonest cause of colic of infancy.

Prof. C. S. Sherrington says: "The sensory

nerve endings in the intestines are to be regarded as highly specialized receptors, sensitized to receive one class of impressions only—those which are of an essentially useful or protective nature. By a process of selective adaptation the appreciation of all other varieties of stimuli has been suppressed; those only are operative which are associated with dangers to the motor functions." At birth the intestinal contents—meconium—are of a character best suited for the education of these motor nerves. The salve-like consistency of the meconium thoroughly lubricates the bowel and has sufficient body to form a normal bowel movement. Where nature is allowed to progress along her selected way the meconium does not disappear from the stool for several days—sufficient for the requirements of the nerve endings to become educated to the slight stimuli thus rendered; the rectum is educated to empty itself when it has become filled with this soft jelly-like mass.

However, this course is frequently interfered with and the too frequent habit of giving the child a brisk laxative on the first or second day is a cause of much abdominal distress. By so doing the natural evolution is upset and the rectum is taught to have a bowel movement upon the greater stimulus of a laxative and thus is inaugurated a vicious circle of laxative—bowel movement—constipation—laxative. With all this mal-education really established before the natural aliment of the child has become established, the child now must endure a period of painful re-education.

### NEW TUBERCULOSIS SANATORIUM AT BELVIDERE.

Dr. A. J. Markley, treasurer of the Illinois State Medical Society, has taken over St. Joseph's Hospital, which will hereafter be known as the Belvidere Sanatorium for the Treatment of Tuberculosis. The location of the hospital on one of the highest points of land in Illinois commands a view of the beautiful Kishwaukee Valley. The surrounding dairy country insures an abundance of pure milk, which, with the pure water supply, is so essential in the treatment of this disease. These advantages, together with the somewhat isolated location, combine to make conditions ideal.

There are but few institutions of this kind in Illinois, and Belvidere now takes its place in the



front rank of the cities in this country that are prepared to solve the problem of providing care for the tuberculous. This up-to-date and ideally located tuberculosis sanatorium, in its efforts to help victims of this dread disease, should receive the hearty support of the medical profession in this and surrounding states.

### COOK COUNTY TUBERCULOSIS HOSPITALS

The committee on Cook County Tuberculosis Hospitals, consisting of Dr. Theodore B. Sachs, chairman; Dr. Ethan A. Gray, Dr. Stephen R. Pietrowicz and Mr. James Minnick, secretary, appointed by Mr. A. A. McCormick, president of the Board of County Commissioners, has issued a comprehensive report on the conditions of said institutions. The report is accompanied by a set of definite resolutions.

It is stated that the conditions in these institutions remained about the same through successive county administrations and that in order to fulfill their functions of drawing from the community the sources of tuberculous infection, administrative, medical, nursing and dietary regimes of said institutions must be revolutionized.

The report states that the chief object of the County Tuberculosis Hospitals is hospitalization of advanced cases of tuberculosis. This can be accomplished by so improving the medical, nursing, dietary and administrative regime that the patients will go and stay willingly there, knowing that they are getting a chance. At present they go there only at a stage of utter physical and economic helplessness, after having infected other members of the family.

At present these institutions are simply shells without the necessary inside machinery.

The committee recommends the following:

#### OAK FOREST TUBERCULOSIS HOSPITAL

1. Capacity 600 after the new tuberculosis hospital and eight open-air cottages are constructed.

2. One physician for each fifty patients, graded as follows, for 600 patients:

One head physician, \$2,400 plus maintenance of self and family.

Three assistant head physicians, \$1,800 plus maintenance.

Eight assistant physicians, \$1,500 each plus maintenance.

3. Nurses. One nurse for each 10 bed patients; one nurse for each 15 ambulatory patients.

Of these nurses there should be for every 50 patients, one graduate nurse from a recognized training school. These nurses should be graded as follows, for 600 patients:

One head nurse, \$1,800 plus maintenance.

One assistant head nurse, \$1,200 plus maintenance.

Ten graduate nurses, each at \$840, plus maintenance.

Thirty-three female attendants at \$540 to \$600 each.

4. Diet. Employment of a trained dietitian, whose duty would be the supervision of the food supplies received in the preparation of the patients' diet, of the quantities of various foods used, of the method of preparation of the diet as well as the method of serving same, said dietitian to receive a salary of \$1,800 per year, plus maintenance.

5. Laboratory. Appropriation of \$2,000 to purchase laboratory nose and throat and medical equipment for thorough study of cases.

6. Visiting nose and throat physician. Employment of visiting nose and throat physician, one or two afternoons per week, at compensation of \$10 an afternoon.

7. An appropriation for the purchase of equipment necessary for open-air treatment of suitable cases.

8. A full quota of domestic service rendering unnecessary the assignment of work to patients whose condition forbids it.

#### TUBERCULOSIS DEPARTMENT OF THE COOK COUNTY HOSPITAL

1. Early restoration of its full capacity of 324 beds which is curtailed to 220 beds at present by the building operations at the institution.

2. Establishment in this department of two diagnostic wards of six beds each to start with, one ward for men and one ward for women, for the accommodation of suspicious cases of tuberculosis, which require for their diagnosis thorough hospital study.

3. Employment of a resident head physician at a salary of \$1,800 and maintenance.



4. A special staff of four attending laryngologists.

5. An appropriation of \$1,500 for purchase of laboratory and nose and throat equipment.

6. Employment of a trained dietitian, whose duty would be the supervision of the food supplies received in the preparation of the patient's diet, of the quantities of various foods used, of the method of preparation of the diet, as well as the method of serving same, said dietitian to receive a salary of \$1,800 per year, plus maintenance.

7. A sufficient increase in the domestic service of the department, to keep it in most sanitary condition, and assist the nurses in the arduous labor connected with the care of bedridden patients.

8. Interne service to cover one consecutive month instead of the present interrupted service of three weeks; and the terms of service of internes overlapping each other.

9. Extension of the nursing service of the general hospital to the tuberculosis department.

#### UPON MOTION OF DR. J. CHASE STUBBS

The Council of the Chicago Medical Society endorsed the recommendations of the Chicago Tuberculosis Institute for a more comprehensive medical and nursing service in the Oak Forest Tuberculosis Hospital and tuberculosis department of the County Hospital; as well as purchase of all necessary medical laboratory and nose and throat equipment for thorough study and efficient treatment of cases; employment of a trained dietitian in each institution to improve the quality, character of preparation and method of serving diet; increase in the domestic service of said institutions; in other words, such an improvement in the condition in said hospitals that the patients may willingly go and stay there, knowing that their cases will be thoroughly studied and efficiently treated; this improvement in conditions in said hospitals facilitating the hospitalization of advanced cases of tuberculosis, which at present remain in the homes of the poor, destroying their families financially and physically.

#### NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1913, and in addition to those previously reported, the following articles have been ac-

cepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Agglutinating Sera for Diagnostic Purposes.—These are the sera of animals (horses) immunized against various bacteria. For use a solution is added to a suspension of the bacterium to be tested, and after incubation for a certain period the mixture is examined.

Agglutinating Serum for the Identification of *Bacillus Paratyphosus* A.—Intended for use by the macroscopic method. H. K. Mulford Co., Philadelphia, Pa.

Agglutinating Serum for the Identification of *Bacillus Paratyphosus* B.—Intended for use by the macroscopic method. H. K. Mulford Co., Philadelphia, Pa.

Agglutinating Serum for the Identification of *Bacillus Typhosus*.—Intended for use by the macroscopic method. H. K. Mulford Co., Philadelphia, Pa. (Jour. A. M. A., Nov. 1, 1913, p. 1630.)

Antistreptococcic Vaccine (Scarlatina Prophylactic).—For description of *Streptococcus Vaccine* see N. N. R., 1913, p. 226. The Abbott Alkaloidal Co., Chicago.

Strepto-Bacterin (Scarlatina Bacterin) Polyvalent.—For description of *Streptococcus Vaccine* see N. N. R., 1913, p. 226. The Abbott Alkaloidal Co., Chicago. (Jour. A. M. A., Nov. 15, 1913, p. 1811.)

Silk Peptone "Hoechst".—Peptone made from silk and standardized to a uniform rotatory power. It is used for the detection of peptolytic ferments, either by changes in optical activity or by the precipitation of tyrosin produced by its digestion. Farbwerke Hoechst Co., New York. (Jour. A. M. A., Nov. 15, 1913, p. 1811.)

Acne-Bacterin Polyvalent.—For description of *Acne Vaccine* see N. N. R., 1913, p. 221. Abbott Alkaloidal Co., Chicago.

Coli-Bacterin Polyvalent.—For description of *Bacillus Coli Vaccine* see N. N. R., 1913, p. 221. Abbott Alkaloidal Co., Chicago.

Friedlander Bacterin Polyvalent.—For description of *Friedlander Vaccine* see N. N. R., 1913, p. 222. Abbott Alkaloidal Co., Chicago.

Gonococcus-Bacterin Polyvalent.—For description of *Gonococcus Vaccine* see N. N. R., 1913, p. 223. Abbott Alkaloidal Co., Chicago.

Pneumo-Bacterin Polyvalent.—For description of Pneumococcus Vaccine see N. N. R., 1913, p. 224. Abbott Alkaloidal Co., Chicago.

Staphylo-Acne-Bacterin Polyvalent.—For description of mixed vaccines see N. N. R., 1913, p. 224. Abbott Alkaloidal Co., Chicago.

Staphylo-Albus-Bacterin Polyvalent.—Abbott Alkaloidal Co., Chicago.

Staphylo-Aureus-Bacterin Polyvalent.—Abbott Alkaloidal Co., Chicago.

Staphylo-Bacterins (Human) Albus-Aureus-Citreus.—For description of Staphylococcus Vaccines see N. N. R., 1913, p. 225. Abbott Alkaloidal Co., Chicago.

Strepto-Bacterin (Scarlatina Bacterin) Polyvalent.—Abbott Alkaloidal Co., Chicago.

Antistreptococcic Vaccine (Scarlatina Prophylactic).—Abbott Alkaloidal Co., Chicago.

Strepto-Bacterin (Human) Polyvalent.—For description of Streptococcus Vaccines see N. N. R., 1913, p. 226. Abbott Alkaloidal Co., Chicago.

Typho-Bacterin Polyvalent.—Abbott Alkaloidal Co., Chicago.

Typhoid Prophylactic.—For description of Typhoid Vaccine see N. N. R., 1913, p. 227. Abbott Alkaloidal Co., Chicago. (Jour. A. M. A., Nov. 22, 1913, p. 1900.)

Arheol.—Arheol is santalol, the chief constituent of sandalwood. Its action is the same as that of sandalwood oil, but is claimed not to cause disturbance of the stomach or the kidneys. Arheol is marketed only in the form of Arheol Capsules, 0.2 Gm. Alexandre Astier, Paris, France. (Jour. A. M. A., Nov. 22, 1913, p. 1900.)

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#### RESOLUTIONS PASSED BY THE NORTH CENTRAL ILLINOIS MEDICAL ASSO- CIATION AT LA SALLE, ILL., DEC. 2, 1913.

WHEREAS, The *Chicago Tribune*, by its warfare upon quackery, has rendered the people an invaluable service, and is purging the profession of a horde of vampires who prey upon the cupidity and misfortunes of suffering humanity, thus disgracing an honorable profession; therefore,

*Resolved*, That we hereby extend the thanks of this Society to the *Tribune* for the splendid campaign which it has so ably and effectively in-

augurated and pledge our support in its further efforts.

*Resolved*, further, That a copy of these resolutions be sent to the *Chicago Tribune*, and also published in the ILLINOIS MEDICAL JOURNAL.

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### Correspondence

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This department is devoted to the individual expression of opinion. It is open to both sides of any question which is of interest to the medical profession irrespective of the views of the editorial management. Communications are invited, but as the space is necessarily limited, they should be short and to the point, and should be free from offensive personalities.

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#### THE AMERICAN COLLEGE OF SUR- GEONS.\*

The American College of Surgeons differs from the medical organizations formed heretofore, whose aims have been purely fraternal or scientific. The College of Surgeons has for one of its purposes the classifying of those in it and a corresponding disadvantage to those not on the list. It is this disadvantage to outsiders, produced by the arbitrary selection of members by the college, which brings up the question whether the American College of Surgeons is to be regarded as an ethical association or not, and this question brings it within the jurisdiction of the American Medical Association.

The college gives a title of "fellow," which implies distinction and special ability. The power to give this title, which should rest in the American Medical Association, provided it were even expedient to give any title, is assumed by the founders of the college and the titles are distributed with a scant investigation of qualifications, as implied by the papers sent to sponsors to be filled out to qualify candidates. There is no control of this selection by the profession as a whole, and it represents no more than oppor-

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\*Response given at meeting of the North Side Branch of the Chicago Medical Society, December 12, 1913, to a letter written by J. F. Williams asking for information from the President of the Branch as to whether the College of Surgeons was not detrimental to the interests of the American Medical Association and its constituent bodies.

# The ANNUAL (S) TRAINING SEASON

If I'd only started  
this sooner I wouldn't  
notice it so much.



Courtesy of the Chicago Record Herald

WHETHER YOUR FUNDS ARE HIGH OR LOW,  
BUY FROM OUR ADVERTISERS. THAT WILL HELP.



tunity to join a society for the monopoly of surgery. Nevertheless, the laity, uninitiated and easily won by aristocratic pretensions, will look upon the title of fellow as evidence of peculiar fitness to do surgery on the part of its possessor and so will be led to choose him in preference to his brother, who may be his equal in ability, but is not in the college. It is here that a wrong is done the profession at large by the college, especially as the title is peculiarly effective in public esteem, because backed by the three famous men who have incorporated the college. They have thus assumed the royal power of distributing favors. There is no questioning that their list is well selected and contains the names of surgeons of fame and great reputation, but the mere matter of this assumption of power is a menace to the medical republic. The successors of these men may be less wise and abuse is sure to creep in.

The college represents the old temptation felt by men of ability, who see mediocrity held as highly as talent by the public, to proclaim by direct statement that they are the ones best fitted for the work—that is, to let self-praise, however disguised, rather than their achievements, speak for them. The widespread publicity in the press given the college, the spectacular display of caps and gowns in procession, are all designed to attract the attention of the laity and impress upon it that the greatest talent in surgery is to be found in the membership of the college. This is unfair to those not in the college and in my opinion unethical, and I think that the founders of the college have made a mistake in creating it. It will not uplift the standard of surgery in America, but merely create dissension. Let us hope that the question of the propriety of the College of Surgeons will be considered calmly, in a judicial spirit, whether within or without this body, good friends and good fellows.

OTTO FREER, M.D.

## IN RE THE AMERICAN COLLEGE OF SURGEONS.

Chicago, Dec. 19, 1913.

### *To the Editor:*

Considering the remarks in the Chicago Medical Society *Bulletin* and the ILLINOIS MEDICAL JOURNAL, I wish to say a few words:

Dr. F. H. Martin has very ably founded and

edited at great expense and enormous labor a journal that has become a truly international journal of surgery. The whole surgical world by it has learned of Chicago and American Surgery as never before.

In 1910 Dr. Martin called and very ably managed the first Surgical Congress in Chicago, which established Chicago as a surgery clinic center in the eyes of the United States, and indeed, the world, and all the Chicago surgeons, great and small, were given an equal chance. In 1911 and 1912 the Surgical Congress was conducted successfully in Philadelphia and New York.

The magnitude and responsibility of this work accentuated the importance of an effort to, in some way, further elevate the practice of surgery and stimulate the ambition of those wishing to do surgery. This idea resulted in the proposed formation of a "College of Surgeons."

In 1913 Chicago surgeons again had the responsible honor of holding surgery clinics before men from all parts of this country and Canada and from Europe. The eminently fair behavior of the leading Chicago surgeons to the smallest hospital clinicians, and even to men never before heard of as teachers, was marked. The unknown surgeon had an equal chance to show his ability, and to become known, but thus far few have shown their appreciation of this.

In so democratic a country as this, naturally the institution of a college of surgery would cause some criticism. Criticism was also indulged in when the medical college standards were raised, but just as this was right, so also is it right that there should be something higher than the mere medical college M.D. for both the physician and the surgeon.

It is to be expected that there would be many who would not be in accord with the method of procedure, a matter of no little difficulty. This same cry of aristocracy went up when, years ago, the men who had honorably worked and won by "competitive" examination, and served at great self-denial and expense a long internship in some good hospital, wished to use some designation after the M.D., as they do in France, and which they had a perfect right to do.

In this country someone must take the initiative, and who is better able than the men who did,

and to Dr. Martin was naturally given the position of secretary, because of his known executive ability.

Dr. Martin traveled the country through and consulted the leading surgeons, and from the suggestions of these men proceeded to the work, assisted by "the Regents" chosen in Washington in May, 1913—Dr. Finney of Baltimore being elected president.

Perhaps it would have been better to have everyone take an examination. Indeed, I, personally, would have valued the position of Fellow more had I done so, though the magnitude of the task made that impossible at the beginning, but it certainly should be the rule later.

The state demands a medical college matriculation and years of study and a diploma, and lastly a State Board examination which permits one to practice both medicine and surgery.

The medical societies demand various qualifications, and the special societies a certain number of years of special practice and a thesis, and no one objects to them. None of these can, or do, debar a licensed practitioner from practicing either generally or specially any branch of medicine or surgery.

The College of Surgeons has also the right to demand certain qualifications and years of special training and to admit, at the outset, those that it feels are qualified without examination. To demand an examination in the future is also proper. The college, if honestly conducted, will give an impetus to the profession, inspire the young man aspiring to surgery with ambition to study and improve himself and later to prove himself worthy of the high honor that is his for the working, viz., an increased confidence of the American public and better results in operations and an increased respect for himself.

However distasteful it may be to quote the Royal College of Surgeons, it would be better if properly understood. The M. (member) R. C. S. is the first degree. Years after, usually 5-7 or 10, the F. R. C. S. (fellow) is taken by examination. Many men continue only as members all their lives and still are surgeons, but the majority are stimulated in ambition to obtain the fellowship, and the fact remains that while some Americans would do just as good work without it, the

majority will be vastly improved by the stimulation to ambition.

Very fraternally,  
(Signed) A. BELCHAM KEYES, M.D.

#### CONTRIBUTION TO THE TREATMENT OF GASTRIC CRISIS.

Max Fuchs of Leignitz (*Muench. Med. Woch.*, 17, June, 1913) recommends in his paper on the treatment of gastric crisis, before resorting to morphine, lumbar injections of novocaine-suprarenin. He cites the case of a tabetic patient who had been suffering for months with gastric crisis and in whom the various methods of treatment had been used without giving any benefit and in whom he tried this method. Two injections administered within a few days were sufficient to relieve the patient, and he has had no return of his pain in five months. The author thinks it worth while to give this treatment a trial, especially as it is very simple, and in case of a recurrence, can always be repeated.

#### FUNEREA FUN.

Here you find the touch of care that gives expression to affection and memory.

##### *A Cemetery Advertisement.*

1. Immediate cause of death, convulsions. Contributing cause, "God knows."
2. Immediate cause, puerperal septicemia. Contributing cause, "Dr. John Doe."
3. As this patient died from natural causes, no inquest was deemed necessary, and none was held.
4. This man had bronchitis; in fact, he never fully recovered from it. It left him with a hacking cough, which finally worried the life out of him.
5. "Epic Pregrency."

##### *From Sample Death Certificates.*

1. Little Georgie died from screams.
2. "Conpyphical."
3. "Not ripe."
4. "Dead bird."
5. "Too soon."
6. Length of this gestation, "Nine inches."

##### *From Still-Birth Certificates.*

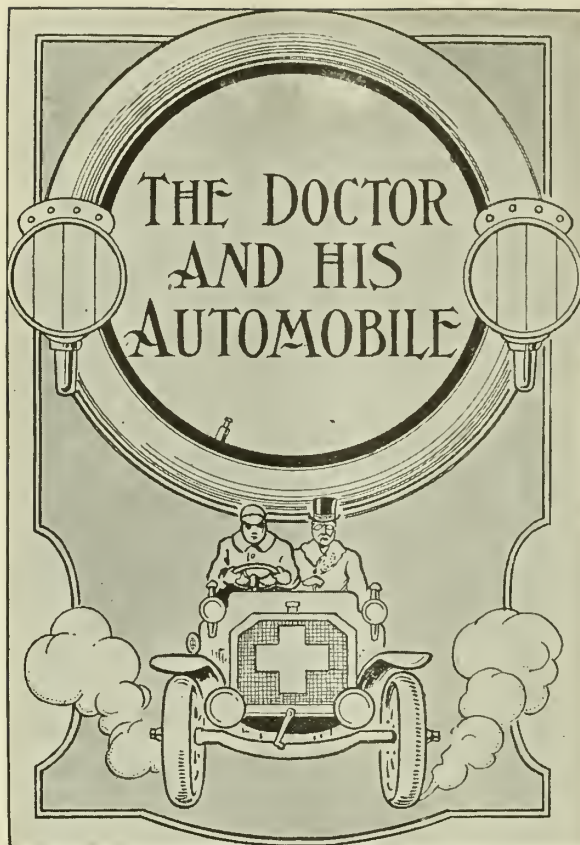
Let us so live that when we die  
Even the undertaker will be sorry.

AND WHEN READY TO GO, "DON'T FORGET JOE."

##### *Undertaker's Advertisement.*

If you read the paragraphs above, don't dismiss them as the poor attempts of a would-be jokesmith, nor say with the farmer when he saw the hippo for the first time, "There ain't no such animal." These are all copied from official documents and could be duplicated by any official who sees a large number of certificates. The physician who signs his name as the cause of death is so common that he has ceased to be a joke, while the reporting of death from uterine fibroid in a "male" fails to excite comment.





Courtesy of American Medicine.

### Auto Sparks and Kicks

#### THINNING GREASE AS DAYS GROW COLDER.

While the engine oil and the grease in the gear case claim most of the attention given to the lubricating system, it should not be forgotten that the grease in the grease cups hardens up considerably in cold weather. It should be thinned with a little lubricating oil or replaced by grease that is lighter.

#### BRIGHTENING TIRES WITH STOVE POLISH.

A good alternative to the white paint often used to brighten up tires is said to be ordinary black-lead stove polish well rubbed on when the tire is clean. The black, slippery surface is neat in appearance, does not show dirt as quickly as the white and is more durable.

Oil economy, which has never entered the minds of many makers, will be forced upon them in a few years, just as fuel economy is now being forced upon the foreign manufacturer.—*The Automobile*.

#### HANDY REPAIR FOR CRACKED WATER JACKETS.

When you happen to crack a cylinder by frost and to close the leak incident thereto, run the engine until quite hot, with no water in same, then stop and take 4 ounces of sal ammoniac and pulverize to a fine powder, mix with fine steel filings about 1 ounce, then add strong cider vinegar to bring the mass to the consistency of thin putty. Then with an old knife fill the cracks and press tightly into same. Now allow it to stand two days to "set," then polish off with an old file. Then paint over with black fireproof paint and the job cannot be told from a solid piece of cast iron.—*Motor Life*.

#### TAKE IT OFF AT ONCE.

Never let mud stay on the bodywork, as it is harmful to the polish. The slush on many roads at this time is particularly harmful, owing to the oil used to prevent dust flying.—*Motor Print*, July, 1913.

#### HEATING THE AUTO.

A simple form of heating a car is to utilize the heat which comes from the motor through the exhaust pipe, carrying this through a series of tubes which form a hot-air register. The latter may be placed in the floor of the tonneau section, as in that compartment it is not necessary to remove the floor boards, but in the section occupied by the driver it would be necessary to fit the register in a vertical position immediately forward of the seats.

Another scheme which has found much favor, and which undoubtedly tends to retain the heat a greater length of time, is the use of the hot water from the cooling system of the motor. In this case a register is also placed in the floor boards of a limousine body, and this is connected by only two pipes, one from the overflow pipe of the motor and a return pipe from the radiator to the intake water pipe.

In this manner the hot water flows through the radiator and returns to the lower side of the engine again, entering the water spaces and becoming heated.—*Exchange*.



## Society Proceedings

### ADAMS COUNTY

The annual meeting of the Adams County Medical Society was held on Monday, December 8, at the Chamber of Commerce rooms, with the president, Dr. Ray Mercer, in the chair.

The business session began at 11 a. m. Among the communications read was one from Dr. A. M. Harvey, chairman of the committee on public policy of the state society, calling attention to a request in the October JOURNAL that all the counties in the state hold public meetings for the discussion of questions of public health, etc. It was moved and seconded that this matter be referred to the program and entertainment committees, respectively, and that they communicate with Dr. Harvey and arrange for a public lecture to be held early in 1914. One application was read at this meeting.

The election of officers was the next order of business and the result was as follows: President, Kirk Shawgo, Quincy; first vice-president, C. R. Bates, Camp Point; second vice-president, Dan G. Stine, Quincy; secretary, Elizabeth B. Ball, Quincy (re-elected); treasurer, C. E. Ericson, Quincy (re-elected); defense committee, F. T. Brenner, Quincy; censors, F. T. Brenner, Quincy, J. H. Blomer, Quincy, Warren A. Pearce, Quincy; library committee and trustees, F. M. Pendleton, Quincy, C. E. Ericson, Quincy, J. H. Pittman, Camp Point.

Adjournment was then taken to the Hotel Newcomb, where a fine lunch was enjoyed.

The first thing in the afternoon was the demonstration of the pulmotor, a new apparatus which has been purchased by the city board of health, and, as the name suggests, is to be used in cases of asphyxiation. Dr. Kirk Shawgo, who is a member of the board of health, was kind enough to bring the machine to the meeting and demonstrate it.

A paper of unusual interest was read by Dr. M. C. Germann, who has recently returned from a trip abroad. The doctor described many beautiful bits of scenery along the journey and told of her work in the clinics of Zurich and Vienna.

This paper was followed by the reading of a short theme by the secretary, who spent five months in Europe during the past year. The doctor dealt chiefly with the curriculum of the foreign medical colleges, gave a description of several of the large infirmaries and explained the principles of the national insurance act.

After these papers were discussed the meeting adjourned.

ELIZABETH B. BALL, Secretary.

### BOND COUNTY

Bond County Medical Society met in the courthouse in Greenville at 1 p. m., Thursday, November 13, Dr. O. C. Church presiding. Dr. E. S. Clark, secretary.

Two new members were voted into the society, leaving but four physicians in Bond county who are eligible and are not members.

The annual dinner and election of officers will be held in Greenville, December 18. Out-of-town speakers will be on hand and a profitable day is assured.

The chief address of the day was made by Dr. Frank Buckmaster of Effingham on the "Medical-Surgical Treatment of Goiter." The speaker began by giving the anatomy and physiology and ended by detail, especially on the surgical care of this condition. Those in attendance were Drs. John H. Gordan and D. R. Wilkins of Pocahontas; Dr. Chittum of Sorento; Dr. O. C. Church, Woburn; Dr. D. T. Brown, Mulberry Grove, and Drs. W. T. Easley, E. P. Poindexter, K. B. Luzader, E. S. Clark, H. M. Vaught, H. D. Cartmell of Greenville.

A motion was carried at a recent meeting that may interest other county societies. Moved the names of physicians of Bond county in connection with surgical-medical cases be withheld from publications; papers be requested to withhold their names.

E. S. CLARK, M.D., Secretary-treasurer.

### CLARK COUNTY

Society was called to order by the president, J. Y. McCullough, in the Young Business Men's clubroom at 2 p. m., December 4, 1912. Members present: McCullough, Duncan, Pearce, Weir, Johnson, Bruce. Visitors present: Dr. C. D. Ryerson, Nurses M. Anaacher, Bertha Bledsoe and Elsie Gossett.

Minutes of previous meeting were read and approved.

Dr. Ryerson reported a case of hematuria from oxylates in urine. On lessening the excessive feeding and permitting proper diet only case recovered completely.

Dr. Weir reported a case of heart disease relieved temporarily by calomel, 2 or 3 gr., with 1/6 of morphin 3 times a day for 2 days, the excessive dyspnea being relieved for a few weeks or months.

Dr. McCullough reported a case of temporary insanity following typhoid fever.

Dr. Duncan reported a similar case that recovered after 6 months of insanity.

Other cases were reported.

The essayist, Dr. D. L. Wilhoit, being absent, Dr. McCullough opened the discussion of the subject of the evening, "Influence of Colds on Respiratory and Intestinal Mucosa," speaking of the frequency of intestinal distension and trouble in children, accompanying colds, broncho-pneumonia, etc. Johnson's explanation of this fact (for it is a fact observed by all) is that the child swallows the mucus and the adult spits it out. He and others took the ground that all inflammation of respiratory and intestinal mucosa from cold or any other cause is always infection. Weir and others considered some cases due to chilling of the surface of the body, producing internal congestion and lessening of excretion by the

skin and vicarious elimination by bowels and lungs and possibly to reflex action. A lively discussion followed.

It was finally accepted that if the definition of inflammation be "the reaction of tissue to infection," as Johnson wanted it, he, of course, is correct, but if the definition of inflammation be "redness, swelling, heat congestion and increase of secretion," these conditions, one or all, may be produced by other causes than bacteria.

It seemed to be the consensus of opinion that the term "cold" should be used, if at all, to designate a symptom or rather a symptom complex and finally be eliminated from medical language.

Upon motion and second, Dr. C. D. Ryerson was reinstated as a member of the society.

A vote of thanks was extended the Business Men's Club for the use of their hall.

The nurses present were invited to make speeches, but declined.

Society adjourned.

L. J. WEIR, Secretary.

### COOK COUNTY

CHICAGO MEDICAL SOCIETY.

*Regular Meeting Nov. 19, 1913.*

This was a joint meeting with the north side branch held at the Chicago Polyclinic Hospital. The following program was given:

1. Demonstration of Bone Cases. William Hessert. Discussion by Drs. C. E. Humiston, William Schroeder and George de Tarnowsky.

2. Fracture of the Acetabulum. Walter Allport. Discussion by Drs. E. W. Ryerson and John Porter. No meeting Nov. 26, 1913.

*Regular Meeting Dec. 3, 1913.*

#### PROGRAM.

1. Inhalation Treatment by New Method. Homer M. Thomas.

Discussion by Dr. Joseph Patton.

2. Goiter: An Effort to Correlate Our Knowledge on the Subject. Coleman G. Buford.

Discussion by Drs. Archibald Church, Joseph Miller and Frank Churchill.

3. Radium in the Treatment of Lupus Erythematosus and Other Chronic Dermatoses. Frank E. Simpson.

Discussion by Drs. Oliver S. Ormsby and Wm. E. Pusey.

4. Drainage of the gall bladder in typhoid carriers. Effie L. Lobdell.

Discussion by Drs. Rudolph Menn, Frederick Tice and E. M. Brown.

*Regular Meeting Dec. 10, 1913.*

#### PROGRAM.

PHYSICIANS' COMPENSATION AND MEDICAL CHARITIES.

1. What Should Be the Remuneration of Medical Officers in Charitable Institutions? Ed. H. Ochsner, president Illinois State Board of Charities.

2. Practical Experiences as County Agent in the Charity Service of Cook County. Joseph Meyer, county agent.

3. The Work of the Visiting Nurse. Mrs. Arthur Aldis, president of the Visiting Nurses' Association.

4. The Value of Publicity. A. P. Johnson.

5. Relationship Between the General Charities and Medical Charities. Benj. H. Breakstone, chairman Committee on Abuse of Medical Charities of the C. M. S.

*Regular Meeting Dec. 17, 1913.*

#### PROGRAM.

SYMPOSIUM ON SURGICAL CONDITIONS OF THE KIDNEY.

1. Anatomical Features and Anomalies. H. J. Prentiss, professor anatomy medical department, Iowa State University.

2. Pathology of Surgical Conditions. Henry Albert, professor pathology medical department, Iowa State University.

3. Methods of Diagnosis in Surgical Conditions. Bransford Lewis, St. Louis.

4. Functional Tests and Their Importance in Renal Surgery. E. G. Mark, Kansas City, Mo.

5. Treatment of Surgical Lesions of the Kidney. Lewis Wine Bremermann.

Discussion opened by F. Kreissl.

ENGLEWOOD BRANCH, CHICAGO MEDICAL SOCIETY.

*Regular Meeting, Nov. 4, 1913.*

The November meeting of the Englewood branch was held on Tuesday evening, Nov. 4, at the Englewood Hospital. The meeting was called to order promptly at 9 o'clock by the president, Dr. Julius H. Hess.

Preceding the regular program Dr. Hess showed two very interesting cases of dyspituitarism of the Cushing type, with symptoms of hyperplasia of the anterior lobe associated with symptoms of hypoplasia of the posterior lobe. Dr. H. G. Hardt, late superintendent of the Lincoln State School and Colony, in discussing these cases stated that they were rather frequently seen at the state institution. Dr. E. E. Simpson presented an interesting heart case in which the murmur could be heard in various vessels remote from the heart.

Dr. Joseph Sherlaw then read the first paper of the evening. He handled his subject, "Disorders of the Cardiac Mechanism; Their Modern Interpretation," in an entertaining and masterful manner. He first described the various instruments employed in graphically recording abnormalities of the mechanism and gave the new classification of arrhythmias which the sphygmocardiograph has made possible. He briefly reviewed the embryology and development of the mechanistic elements of the heart. He defined the various arrhythmias, taking up in detail three of the most important, viz: sinus arrhythmia, heart block and auricular fibrillation.



Dr. Sherlaw's paper was highly applauded. He did justice to an extremely difficult subject which he handled in a very creditable manner. It was a dandy paper, well written.

Dr. E. E. Simpson, on account of the lateness of the hour and much to our regret, did not present his paper on "Arterio-sclerosis and Blood Pressure." He did, however, read an extremely interesting and instructive paper on "The Bad Nauheim Treatment," based upon facts he obtained upon his recent visit to this famous resort. Dr. Simpson's paper was greatly enjoyed by all.

Dr. W. H. Holmes of the Northwestern University gave an interesting demonstration of the work he has done on the serum diagnosis of carcinoma.

The discussion was opened by Dr. Joseph L. Miller and his remarks were extremely instructive. His talk on the Bad Nauheim treatment, based upon his personal visit, was very interesting. While admitting that the baths are valuable, he believes that the principal good lies in the psychic influence upon the patient. That the change, regular habits, rest, freedom from worry, etc., are far more potent factors in benefiting the patient than the baths. He then gave a brief but instructive review on the etiology of arteriosclerosis and talked on the relation of arteriosclerosis to high blood pressure. His entire discussion carried with it a wealth of valuable points.

Others who entered the discussion were Drs. Hardt, Buhlig, Haerberlin and Lespinasse.

The meeting adjourned shortly before midnight. The attendance was 103.

ARTHUR G. BOSLER, Secretary.

*Regular Meeting Dec. 2, 1913.*

The December meeting of the Englewood branch was held on the evening of Dec. 2, 1913, at the Englewood Hospital. The meeting was called to order promptly at 9 o'clock by the president, Dr. Julius H. Hess. The following program was presented:

#### A SYMPOSIUM ON HEADACHES.

Headaches ..... Robert B. Preble  
Relation of the Eye to Headaches. Henry R. Boettcher  
Relation of the Nose and Accessory Sinuses to

Headaches.....G. Henry Mundt

Dr. Preble during his masterful discourse gave a wealth of valuable points concerning headaches in general. He stated that there was not as yet any satisfactory classification of headaches, but gave and followed along the lines of the classification by Auerbach. He spoke of the essential headaches; diseases, within the cranial cavity such as intra-cranial neoplasms, meningitis, etc.; those due to remote conditions; general conditions such as the various infections of typhoid, influenza, syphilis, etc., and mentioned the local conditions. He made a strong plea that all headaches be looked upon as important and that they receive careful consideration. That in every case the history and examination be most thorough. He recited several interesting cases in which the head-

ache was considered lightly, but which proved fatal. He cautioned against the careless diagnosis of neurotic headache and stated that while headache in the neurotic is common and troublesome, all other causes should be excluded first. He asked that no case be dismissed as one of migraine unless a history of heredity was obtained; that the percentage otherwise was small. He called attention to the fact that later in life the kidney is a common cause and stated that the urine should be most carefully examined, reciting a case in which the urine was normal but the amount greatly reduced.

In closing he stated that headache is always a serious problem; that the examination be most painstaking and continued until the cause is found.

The relation of the eye to headache was considered by Dr. Henry R. Boettcher, and the relation of the nose and accessory sinuses by Dr. G. Henry Mundt. Both of these papers were very good and were enjoyed and appreciated by those present.

Dr. Will J. Thompson demonstrated his silver dento-maxillary splint and reported three cases so treated. One recent case was shown. The result was perfect. The splint has many good points to recommend it, among which are simplicity, ease of application, comfort to patient and the good results obtained.

The discussion was opened by Dr. Archibald Church, who, as usual, gave an extremely interesting talk and brought out many valuable points. He was followed by Dr. Ira Frank, Harry Kahn, E. C. Morton, C. Hubart Lovewell, E. E. Simpson and others.

A vote of thanks was extended the speakers of the evening. The attendance was 86.

ARTHUR G. BOSLER, Secretary.

#### CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

*Regular Meeting April 22, 1913.*

The president, Dr. J. Gordon Wilson, in the chair.

Dr. L. M. Dean of Iowa City, Iowa, reported a case of compound follicular odontoma of superior maxilla.

Miss C., aged 20 years, presented herself for examination March 6, 1912. The following history was given by Dr. Bowie, who referred the patient to Dr. Dean. He reported that several weeks before the patient presented herself complaining of pain in the upper (right) third molar. The third molar was sensitive. Treatment of the tooth with removal of the nerves from the root canals did not relieve the pain and two or three weeks before Dr. Dean saw the patient the tooth was extracted. It had the usual short, conical root. Two weeks after the tooth was extracted a discharge of sero-purulent matter made its appearance in the socket of the tooth and a number of rudimentary teeth were discharged through this opening. Examination showed that there was a sinus leading upward from the root socket of the

right, third, upper molar. On probing this sinus it was found to open into a large cavity. The diagnosis of an odontoma was made and operation advised.

Opening was made into the superior maxilla just above the gingival border over the socket occupied by the third molar tooth. A large cavity was found, which extended forwards over and external to the first and second molars. The cyst extended into the hard palate, one-half the distance to the medium suture. Within the cavity were found a number of rudimentary teeth and plates of enamel. In all there were removed previous to the operation at the time of operation thirty-five rudimentary teeth and pieces of enamel. The antrum was opened and found normal. The wound was drained through the antrum into the nose and the external opening closed. Later the wound reopened and was closed by a second operation.

Various methods of closing the wound between dentigerous cysts and the buccal cavity were discussed. The classification of the various odontomata was considered.

Dr. Alfred Lewy showed a case of atresia of the external canal.

The ear began discharging at the age of eighteen and ran for several years, but was finally cured. The woman was a patient of Dr. McBean and was first seen by Dr. McBean last August. At that time there was almost complete atresia. After that she was not seen until a week or two ago, when she came in with complete atresia. The patient also has Raynaud's disease and scleroderma. (Since the reporting of the case the atresia has been cured apparently by electrolysis and the insertion of Bernays' splint.)

#### DISCUSSION OF DR. DEAN'S CASE.

Dr. M. Herzog said he knew comparatively little about such tumors. In general terms he might say that odontoma, as a rule, originates from embryonal inclusion. In the horse they are comparatively common compared with the human race, and he had examined probably four to six cases in horses.

Dr. Joseph C. Beck said there was one fact that ought to be brought out, namely, the use of the radiogram in the diagnosis. He recently had a case of dentigerous cyst with a retained tooth that was malformed. The condition had been treated for four years for an antrum suppuration, with an opening at the last molar region. Of course, the case was treated, from a different point of view, by the dentist. The x-ray picture showed very clearly a double partition of the so-called antrum and a tooth in this dentigerous cyst or cavity. Another interesting fact in this case was that during the operation, which was performed under general anesthesia, while prying the tooth loose, it slipped. Three days later the tooth was removed from the nasal cavity. It had been forced through the two thin partitions into the antrum first and on into the nasal cavity.

Dr. Norval H. Pierce said that the division of these cases into inflammatory and embryologic cysts was very practical from a clinical viewpoint. The inflammatory or so-called dentigerous cyst is very frequently seen as a very small protuberance or cyst at the root of a tooth, when it has been removed for some cause or other, the cyst not having been suspected before. This cyst is capable of growing to an enormous extent, filling up the entire maxillary antrum.

The differential diagnosis between these cysts and empyema of the maxillary sinus is that the cysts contain cholesterol crystals.

Dr. Pierce had seen just one case of the embryologic form of cyst that occurred in a man who was brought to the Illinois Eye and Ear Infirmary, and he had a cleft reaching from just above the ala of the nose to the tear duct. There was a bridge of normal bone separating the cleft above from that below and the speaker could very easily detect two teeth just below the eye, and, running the probe down into the fistula below, which ran down underneath the gum, there was a cavity which apparently was filled with embryologic teeth. The man was told to come back for operation, but never appeared again.

Dr. Dean, in closing, said that no x-ray examination was made in this case because the diagnosis was plain. The sinus in the alveolus from which the rudimentary teeth were being discharged made a positive diagnosis. Dental surgeons have not definitely decided as to whether it is possible to have a complete absence of a tooth of the second dentition or its embryonic structure. In New York recently they had a case in which there was apparently a congenital absence of a tooth. The patient was seen by Dr. Ottolengui, who made a radiographic examination. The x-ray picture showed most beautifully a composite odontomata.

#### CASE OF MENINGITIS IN WHICH THE CISTERNA MAGNA WAS DRAINED.

Dr. Norval H. Pierce reported this case of mastoiditis complicated by purulent meningitis as a result of chronic suppurative otitis media. The clinical symptoms of meningitis were confirmed by lumbar puncture, the active microorganism resembling a pneumococcus, but was hemolytic. The cisterna magna was drained and a free flow of cloudy cerebrospinal fluid was obtained March 15. March 28 the patient died.

Dr. Pierce, in commenting on the case, said that we must depend for diagnosis on lumbar puncture in meningeal inflammations. The findings are not always useful in differentiating between serous meningitis, localized meningitis, which is permanently circumscribed, diffuse meningitis or one that is spreading. In all probability, if we can recover a live pathogenic bacterium from the spinal fluid, we have to do with meningitis which is already diffuse or is at the time spreading. We should strive always, however, to dif-



ferentiate between these conditions. The operation is not indicated in any other form than a diffuse meningitis or a meningitis which tends at the time to spread. Serous meningitis or circumscribed meningitis may best be treated by spinal puncture or permanent lumbar drainage. One can readily imagine how the unavoidable trauma incident to an operation for draining the cisterna magnum, the extreme and sudden depletion of the subarachnoid space of its natural fluid, might transform a circumscribed meningitis into a diffuse meningitis. That it has the advantage over splitting the dura in the mastoid wound, a septic field, is certainly true, for in the case cited the external incision healed by first intention and when the drain had to be replaced it was found that the dura itself had largely healed, but it cannot be considered as aseptic as, for instance, a surgical wound made in the skull in the course of an operation for tumor, for in our case the septic wound in the mastoid is only a short distance from the wound in the occipital, and both are covered practically by the same dressings.

He gives the following directions for the care of meningitis: If the headache is severe, temperature high and stiff neck increasing, you should depend, first, on lumbar puncture. The cytologic, bacteriologic and chemic condition of the cerebrospinal fluid should be carefully studied. In the absence of living bacteria we should continue with our lumbar drainage. However, if the cytologic content increases and the clinical picture is that of increasing meningitis and we recover a living pathogenic bacteria in the fluid, we may resort to opening the cisterna. However, in view of the great mortality following such operations we should not indulge our hopes too highly.

Dr. Joseph C. Beck's paper on "Failures and Successes in Diagnosis and Surgical Intervention of Some Intracranial Diseases, Especially from the Standpoint of an Oto-Laryngologist, with Report of Cases," was published in the November JOURNAL.

#### DISCUSSION.

Dr. M. Herzog said that it was not at all astonishing that a definite diagnosis could not be made in the case reported by Dr. Beck. The postmortem clearly showed that it must have been almost impossible to locate the tumor. The most common tumors of the brain are gliomata; next in order, sarcoma and endothelioma; the last perhaps still more common than sarcoma. He has had considerable experience in the examination of glioma, probably having seen from twelve to twenty cases. He has never seen one situated as the one reported. As a rule, gliomata develop somewhere in the substance of the brain, and in spite of the fact that it is really a benign tumor, it is infiltrating in character, so it is generally not well differentiated from the brain tissues, the matrix in which it grows, but infiltrates it more or less diffusely. (Dr. Herzog's pathologic report on the Beck case followed Dr. Beck's article.)

In this tumor, in spite of the fact that he had not been able so far to demonstrate the characteristic glia fibers, by excluding all other tumors, it could be said to be a glioma of very unusual situation. It was a very unique and peculiar tumor, of unique development because it projected not into the ventricle, but to the outside of it, and only connected with its matrix by a very slender pedicle.

Dr. J. Holinger said that his attention was first drawn to this subject by a patient with brain tumor who told him that the trouble in the ear preceded by years any other symptom. That fact led him to make a diagnosis and propose operation to a patient, who, eleven and a half months later, was operated on for the very thing that he had diagnosed from the functional tests so long before.

The third case that he saw was a patient with a gumma, who gave exactly the same response to the functional tests, but no other symptoms. He got well, of course, after a few injections of mercury.

The fourth patient was a lady whom he had the chance to watch for several months, who was operated on two years ago, after a prominent neurologist in this city said, only a week or two before the operation, that he did not dare make a diagnosis of brain tumor on the other evidences. Still, the speaker stuck to his diagnosis and the tumor was found, although it could not be removed. The patient is still living, and although several symptoms are developing which might suggest a second operation, the scar in the skull is still pulsating, showing that the intracranial pressure is not so very high and therefore he would not yet insist upon another operation.

With reference to the case of Dr. Pierce of meningitis, the speaker reported a case which was cured in the *Zeitschrift für Ohrenheilkunde*, some time ago. The conditions in that case were in every way favorable, and he had an opportunity seven months later to verify the diagnosis at the postmortem, as the woman died from another attack of meningitis after otitis media. He could distinguish the old changes and the new ones, side by side, and could see why recovery was not possible the second time.

He has at present a case of meningitis in a young lady of seventeen, who had distinct symptoms of nasal trouble. The x-ray showed cloudiness of the ethmoidal and frontal sinuses on one side. That cleared up. She was up and around for several weeks. Suddenly she became unconscious and was unconscious for twenty-four hours, when the speaker saw her, and at once had a lumbar puncture made. The fluid was under high pressure and clear. Six or seven years previously that young lady had had a tubercular affection of the external canal and middle ear of the same side, which he had operated on, as a typical mastoid. Therefore, the possibility of a brain abscess was clear. So he suggested trephining in the temporal lobe. He made an opening in the bone the size of a half dollar. There was

absolutely no pulsation of the dura. He inserted a very slender knife and found nothing but clear fluid. He explored very carefully in different directions, but while operating the pulse rose from 52 to 65 and 70 and she clearly improved. The next morning she was clear enough mentally to recognize her surroundings. In the course of time she recovered sufficiently so that she is walking around now and doing well in every way. She does not complain of headache or any other symptom except a slight weakness in the right leg and right arm. His diagnosis in this case is that it was a case of tubercular meningitis of the base, one of the few cases that recover. Whether she will get entirely strong or not he does not know; at present, however, she has the appearance of going to complete recovery.

Dr. John A. Cavanaugh said it has been his good fortune to have seen two or three of the cases mentioned by Dr. Beck, and what impresses him most was a complaint of headache by the patients. The other signs were practically negative. One of these cases, a young man, Dr. Cavanaugh had seen while Dr. Beck was out of the city. Spinal punctures were absolutely negative. The only thing of any importance whatever was the headache. At times the patient was a little irritable. The only thing that suggested the brain complication was the fact that a mastoid operation had been done and the probabilities were that there was an involvement in the brain secondary to the operation.

Dr. Cavanaugh examined the patient and thought it best to expose the dura in the region of the mastoid and explore, but while preparations were being made for the operation the patient became cyanotic and died.

In the case of the elderly man, reported by Dr. Beck, spinal puncture just before operation was negative. The only symptom of importance was the headache.

Dr. L. W. Dean of Iowa City, Iowa, said that the only treatment that had been of any value in his experience, so far as diffuse septic meningitis was concerned, was the prophylactic treatment. He has done a subdural drainage on some eight or nine cases. They all died. He questions the advisability of being guided by the rule laid down in Neuman's table, which states that in individuals with loss of hearing, functioning semicircular canals, no fistula symptom and chronic otorrhea, only a radical operation, not a labyrinthectomy or labyrinthian drainage should be performed. Following his interpretation of this rule he did not operate upon the labyrinth in the following case: The patient had a discharging ear for fifteen years. Caloric test was positive. There was no hearing. Following the rule of the Vienna school, he did only a radical operation. Keeping in mind that the Vienna school suggested, that in such cases a very careful examination should be made to see if there was any evidence on the inner wall of the tympanum of involvement of the laby-

rinth, he made a very careful examination. No necrosis or evidence of fistula was discovered. The head of the stapes was in good condition.

Following the radical operation, nothing of moment occurred until two weeks after, when the patient developed a slight facial paresis and a temperature of about 100 degrees. The next day he had projectile vomiting, paresis of the facial, rigidity of the muscles of the back of the neck, temperature of 103 degrees and extreme headache. Spinal puncture showed a very turbid, white fluid under great pressure. It contained 97 degrees polynuclear cells. No bacteria could be found either in cover-glass preparations or by making cultures on Loeffler's blood serum or agar. Fehling's solution was not reduced. Noguchi globulin test was positive. In his judgment this case was not at this time a diffuse septic meningitis, but was a circumscribed meningitis, with a general serous cerebro-meningitis. A labyrinthectomy was performed. Before operation the caloric test was positive. There was no pus either in the semicircular canals or in the cochlea. As soon as the internal auditory canal was penetrated, half a thimbleful of pure white pus escaped. This was followed by two or three ounces of turbid cerebrospinal fluid. This patient made apparently a most beautiful recovery. His headaches left him. The rigidity of the muscles of the back of the neck disappeared. The temperature became normal and he was able to sit up in bed. About ten days after the labyrinth operation, with drainage of the meningeal spaces, rigidity of the muscles of the neck became suddenly manifest again. Temperature was elevated. Spinal puncture gave the same findings as in the first case, except that in addition streptococci were found present. This case was now considered one of diffuse septic cerebro-meningitis, and the condition practically hopeless. The patient died. The temporal bone is being decalcified and has not yet been examined.

If he had a similar case now he would not be guided by the Vienna school and be content with a radical mastoid operation, but would perform a labyrinthectomy.

Dr. S. A. Friedberg spoke of the difficulties in differentiating various intracranial lesions outside of sinus thrombosis or distinct meningitis. With Dr. Loeb and Dr. Beck, he had that day seen a case at the county hospital—a boy of about twelve, with a history of suppuration of the right ear for five or six years. He had scarlet fever up to three weeks ago, from which he had made a recovery, and examination of the ear showed a central perforation, some purulent discharge, no mastoid tenderness. He had been having severe frontal pain for four or five days, had vomited once two days before admission and again the night before coming to the hospital. Pulse on admission was around 64, temperature 99 degrees. That was about the highest the temperature had gone. The speaker, with Drs. Loeb



and Beck, examined him and found that he had a peculiar type of respiration, so-called air hunger, every few moments yawning, as if getting insufficient air. Pulse still kept down; temperature not above 99 degrees. Complained of headache. Dozed a great deal. When awakened he responded readily to questions. He spoke of having some double vision, but this had disappeared. The speaker thought there might be a slight ptosis of the right eye, but this was not definite. There was no evidence of any other involvement of the cranial cavity. He had nystagmus, both horizontal and rotary, and this nystagmus was spontaneous to either side, perhaps slightly more pronounced on being directed to the opposite side. In testing with the cold water the nystagmus was produced for about twenty-five seconds. Spinal puncture showed the fluid not under pressure, clear, no bacterial content, and reduced with sugar to a certain amount. No rigidity of neck, no distinct meningitis. X-ray negative. Dizziness was complained of. In testing for ataxia he fell to either side. The hearing, outside of the middle ear process, was pretty fair. There was one other sign elicited—diadochokinesia. On the whole the patient seemed rather apathetic.

The speaker thought meningitis and labyrinth trouble could be excluded from the diagnosis. The question was as to the localization of the trouble. He had practically no focal symptoms. Of course, the evidence was there of pressure, as manifested by the pulse and the spinal puncture. Whether it was cerebral or cerebellar he had not determined as yet. He simply brought this up as pointing to the difficulties encountered in localizing these intracranial conditions at times.

Dr. H. W. Loeb of St. Louis said that as this seemed to be in the nature of an experience meeting, he would briefly cite a case of a child, perfectly healthy except for a running ear, which had, from the history, been entirely healed for several months, who was suddenly taken with acute otitis media. The mother said that the child had put a piece of paper in his nose. This, however, was not elicited until some four or five days after being seen. He found a large piece of paper in the right side of the nose, and was quite sure that the acute exacerbation had its inception in that. The child was taken almost immediately with symptoms which were taken to be those of meningitis; he had a positive Kernig and other symptoms that go with meningitis. Mastoid opened up and the middle fossa at the same time, but nothing was found. The symptoms continued, though somewhat modified, the spasms having been replaced by twitchings, the child going into a comatose condition. So he decided to operate in the posterior fossa. In order to get plenty of room, operation was made through the occipital bone, posterior to the mastoid wound, and not through the mastoid opening. A large opening was made, a large button taken out, incision made into the cere-

bellum and no abscess found, although abscess of the cerebellum had been diagnosed. Postmortem examination showed that there was a very small abscess in the cerebellum, which had not been reached by the operation. Hence he said it was a case of successful diagnosis and an unsuccessful case, because he did not happen to strike the pus. The postmortem showed no meningitis present.

Dr. G. W. Boot reported a case seen several years ago of a young man who had a chronic suppurative otitis media for several years and who was taken with symptoms pointing to brain abscess. He was operated on by the speaker, who cleaned out the mastoid, opened the dura and sinus and explored the cerebellum for an abscess. This patient died after several days, and the post-mortem showed that he had a cerebellar abscess, which the speaker had only missed reaching by a quarter of an inch.

He thinks we should always remember, in such cases, to look for the abscess not far from the internal auditory meatus. It is apt to be there instead of farther back.

Another case was referred to him for diagnosis of the cause of headache. In examining the young woman he found that she had very marked choked disc. He took her to see Dr. Wilder, who confirmed that, and advised him to take her to a neurologist. This was done. The neurologist thought she had a brain tumor, but could not locate it. He returned the patient to the first doctor, who operated that afternoon or the next day, intending to do merely a decompressive operation. There was considerable hemorrhage at the time from the diploe. No tumor was found, and the patient died the same night. The brain was removed and hardened and later sectioned, but no tumor was found. However, there was a hemorrhage occupying a space about half an inch in diameter in the cerebellum.

In this connection he thinks it is imperative to remember that the symptoms of brain tumor may be imitated by a marked anemia, and in every case where we wish to exclude the things which might be confounded with brain tumor, we should always remember the possibility that the same symptoms may be set up by anemia.

Another point in connection with brain tumors is that where brain tumor is suspected, we should be very careful about lumbar puncture, because when the pressure is removed the tumor may force the medulla down towards the foramen magnum and so compress it as to cause sudden death.

He reported the case of a girl, about ten or twelve, who had had a chronic suppuration from the ear for a number of years. He was called to see her because of peculiar brain symptoms, and suspected that she had a brain abscess. She was sent to the hospital for operation of the mastoid, but while preparing for operation, and before she was anesthetized, she died. In that case he always be-

lieved that the girl had an abscess which ruptured into the lateral ventricle.

Dr. J. Gordon Wilson said that the paper and discussion had been suggestive as to the lines along which otology is developing. To limit otology to the temporal bone is to take a narrow view of its sphere of action. As the ophthalmologist is called to give his opinion in regard to cranial tumors, so the time would come when the otologists would be asked to assist in locating and diagnosing lesions of the brain. Already we see what has been done by the application of the caloric and rotation tests. Further, as a considerable proportion of brain abscesses come either directly or indirectly within the field of the otologist or rhinologist, we are compelled to have at least some knowledge of cranial symptoms.

Another thing which has made this meeting most interesting is the careful and painstaking history of an obscure case of brain tumor. It is too often the case that in clinical records of brain tumors there is something essential wanting. There is no place in the body where the demand is greater for a full and careful report of symptoms, not only in the case recorded, but also for future reference. We wished to compliment Dr. Beck on the care with which this history was recorded.

In the paper of Dr. Pierce he recorded the micro-organism he found. Dr. Wilson has always felt that we should be a little more particular in ear cases to ascertain the organism we are dealing with. By this recognition we can aid the prognosis and at times the treatment. Thus, in time we shall get to recognize better the more dangerous organisms. The most fatal cases of meningitis he has seen have been associated with the streptococcus capsulatus.

Just one other point, in regard to the case referred to by Dr. Friedberg. Dr. Wilson has always felt that if in any case of nystagmus is directed to the diseased side, the great probability is that we are not dealing with a case of labyrinthine disease. One could imagine a case of labyrinth disease in which there is hyperexcitability of the semicircular canals, but they must be very rare.

Dr. Beck, in closing the discussion, said that the question of diagnosis by the aid of the x-ray in intracranial conditions has been a terrible disappointment to him. He has yet to find one case in which he could say that he had located a certain thing, like an abscess or tumor, by the x-ray, in which subsequent operation or post-mortem could show that. Perhaps it was in the interpretations. Maybe in the technic. Of course, in cases of fracture, the x-ray was very useful, but in deep-seated intracranial lesions he has not been able to show its real value.

The speaker reported the case of a man with tumor at the base of the skull, in which case neurologists had made a diagnosis of hysteria. In looking up the literature, he found that Cushing

reports two such cases of pain, even after Gassereotomy, which was performed in his case.

There was one case on encephalocele which was very interesting. He made serial sections of the temporal bone in this case. Professor Denker and others who looked at them at the last congress in Boston agreed with Dr. Beck that there was an underdevelopment of the finer structures in the internal ear. So that is a point to consider in such cases, that even if the encephalocele is cured, the patient's hearing will perhaps never be of much value. The investigation of such cases that have lived, either with or without operation, would add a great deal to the subject.

Regarding the case Dr. Cavanaugh spoke of, in which he said that the reaction in the spinal fluid was not the same as the normal copper-reducing reaction: That was not the only symptom. The main symptom present was a purulent fluid—a fluid that contained micro-organisms from the very beginning, and that was the reason the speaker operated.

Dr. Cavanaugh asked if it reduced copper.

Dr. Beck replied that it did not. He operated because the fluid was infected.

With regard to these cases, he would urge men to follow them up and try to get a post-mortem, because we can certainly learn more from that than anything else. He would say openly that he had been successful in stealing his post-mortems over at the Cook County Hospital, because the doctors are not supported in this by the authorities. Permission should be given for post-mortems.

OTIS H. MACLAY, *Secretary.*

#### EFFINGHAM COUNTY

The regular monthly meeting of the Effingham County Medical Society was held at the City Hall, Effingham, December 9 at 1 o'clock. Minutes of previous meeting were read and approved.

The subject of local quacks and transient doctors was discussed, and terminated in a motion by Dr. Holman that the president appoint a committee of three, with power to form resolutions and present to the City Council of Effingham regarding incoming doctors and quacks. President appointed on committee Drs. Holman, Burkhardt and Damron. Several bills were presented and allowed. Report of treasurer read and approved.

The following officers were elected for the ensuing year: President, Dr. E. A. Bing, Altamont; first vice-president, Dr. J. C. R. Wettstein, Effingham; second vice-president, Dr. F. W. Goodell, Effingham; secretary, Dr. E. W. Brooks, Beecher City; treasurer, Dr. George Haumesser, Shumway; delegate, Dr. Frank Buckmaster, Effingham; alternate, Dr. Henry Taphorn, Effingham; board of censors, Dr. C. C. Holman, Effingham, the new member for three years.



Drs. Buckmaster, Haumesser, Burkhardt and others discussed the ethical situation of the county. Motion by Dr. Buckmaster that the board of censors notify the papers of the stand taken by the society regarding ethics, present and future.

Presentation of fee bill proposition by Dr. Brooks, with reading of Fayette County fee bill, discussed by those present. The trend of remarks was toward a gentleman's agreement, rather than action by society as such.

Those present were Drs. Damron, Brooks, Buckmaster, Burkhardt, Bassett, Holman, Lawrence, Weinstein, Haumesser, Tinsley and Taphorn.

It is with pleasure that we look back on this year's work. The year has been fraught with difficulties, the usual number that have been assigned places on the program have failed to appear, but, all in all, we who have had the responsibility feel that something has been accomplished. Eleven monthly meetings have been held, with an average attendance of twelve; one special call meeting; four public health addresses, by such talent as Dr. J. B. Murphy of Chicago, Dr. W. L. Heizer of Kentucky, Dr. Dorsett of St. Louis and Dr. Lewis Wine Bremmerman of Chicago. A banquet given in October was a great success, bringing together some forty-five doctors and their wives. It is with pleasure and a hope for a better year that we turn the work of the society over to the new officers. L. BASSETT, *Secretary*.

#### LETTER FROM NEW PRESIDENT.

December 13, 1913.

*Dear Doctor:* In electing me its president, the Effingham County Medical Society has bestowed upon me the highest honor in its power to bestow. An honor unsolicited, unearned, but not unappreciated. I accept the honor, with the responsibility it implies.

In accepting the presidency, I recognize for the future of the society possibilities limited not by the ability of its membership, but by the interest and effort of each member.

That our county society may become more progressive and profitable, I suggest: 1. That each member, early in the year, make a careful study into the methods and workings of at least one other county society, with especial reference as to why it succeeds, and report to the program committee. There is no good reason why this society should be outclassed by any of its size in the state. 2. I further suggest the early institution of a monthly bulletin. 3. That each member's attendance record be printed in each monthly bulletin, and at the end of the year the names of all members with an attendance record of 75 per cent. or more be reported to the ILLINOIS MEDICAL JOURNAL.

Kindly give this your thought and be ready to discuss these suggestions at the January meeting, along with any others you may wish to offer.

For the success of this year's work I pledge my best effort and ask yours.

Respectfully, E. A. BING.

#### FULTON COUNTY

The sixty-sixth meeting of the Fulton County Medical Society met in the Auditorium of the Y. M. C. A. building, Canton, Ill., and was called to order by President Beatty at 2 p. m. December 2, 1913.

The minutes of the October meeting were read and adopted.

On motion, the president appointed Drs. Coleman, Hayes and Adams as membership committee pro tem. Application for membership from Dr. H. G. Hirschle of Canton was read and referred to the membership committee. The membership committee reported favorably on the application of Dr. Hirschle. Drs. Coleman and Chapin moved that the rules be suspended and that the secretary cast the vote of those present in favor of the election of Dr. Hirschle. Carried. The secretary cast eighteen votes in favor of, and the president declared Dr. Hirschle elected to membership.

Pursuant to a plan being adopted to perfect and promote co-operation between the Red Cross Society and the medical profession, President Beatty appointed Dr. Hayes of Canton, Dr. Stoops of Ipava and Dr. S. A. Oren of Lewiston as the medical representatives of Red Cross work in this county.

Dr. Rogers read a paper on the "American College of Surgeons." After a free discussion, Drs. Oren and Adams moved: That it is the sense of this society that the formation of the College of Surgeons under its present plans is un-American and should not be countenanced by the rank and file of the physicians and surgeons of this county. Motion lost.

Shallenberger and Chapin moved: That the executive committee of this society investigate the subject of the American College of Surgeons and report with recommendations at our next meeting. Motion carried.

Dr. Shallenberger moved that the secretary draw up a set of resolutions and transmit a copy to the Chicago *Tribune*, commending that paper on its successful fight against quackery. Carried. Those present were: Drs. Shallenberger, Welch, Dimmitt, Standard, Scholes, S. A. Oren, Rogers, Howard, Gray, J. R. Smith, J. E. Coleman, E. P. Coleman, Hayes, Allison, Adams, Hirschle, Beatty, Ray, Chapin, Keller, Stoops and W. H. Betts. Total, twenty-two.

Adjourned.

D. S. RAY *Secretary*.

#### IROQUOIS-FORD BI-COUNTY MEDICAL SOCIETY.

The regular meeting of the Iroquois-Ford Medical Society met in session in the dining-room of the New Gilman House December 2 at 1:30 p. m., with the president in the chair.

Minutes of the previous meeting were read and approved.

The order of business was then taken up and the transfer card of Henry W. Clifton was read and

Dr. Clifton was elected to membership in our society.

The society then proceeded to elect the following officers for the ensuing year: President, Dr. N. T. Stevens of Clifton; vice-president, Dr. R. N. Lane of Gibson City; secretary, D. W. Miller of Gilman; censor for three years, Dr. Horace Gibson of Sheldon; delegate for three years, Dr. O. O. Hall of Milford; alternate, Dr. J. L. Shawl of Onarga.

Dr. H. D. Junkin of Milford then gave a paper on "Blastomycosis," with a report of a fatal case.

Dr. J. W. Vanderslice of Oak Park then gave a talk on "Some Points of General Interest in the Feeding of Infancy and Childhood."

Dr. J. A. Colteaux of Roberts then presented a paper on "Appendicitis."

These papers were quite thoroughly discussed and many interesting points brought out.

It was then moved and seconded that a committee of three be appointed to arrange a meeting in the near future to talk over fees and formulate a new fee bill, if thought practicable.

There being no other business to come before the society, we stood adjourned.

J. L. SHAWL, *Secretary*.

#### KANKAKEE COUNTY

Annual meeting of Kankakee County Medical Society was held at the Court House, Kankakee, Ill., at 8 p. m. Thursday evening, December 11, 1913; President Dr. George H. Lee in the chair and a goodly number present.

Secretary reports sixteen new members for the year. Treasurer a balance on hand of \$30.50. Dr. George H. Lee, president; Dr. J. A. Gurtine, vice-president; Dr. C. F. Smith, secretary and treasurer, were re-elected to fill the several positions; Dr. A. J. Brown was chosen delegate and Dr. H. L. Corbus, alternate, to the State Medical Society; board of censors chosen were Dr. H. L. Corbus for three years, Dr. S. L. Gabby for two years, Dr. A. J. Bundy for one year; committee on public health and legislature, Drs. C. F. Smith, J. A. Gurtin and J. H. Roy; Red Cross medical work, Drs. George H. Lee, C. F. Smith, C. F. Shrouts, A. J. Brown and H. D. Singer. The attached resolutions gave rise to considerable discussion and were unanimously adopted, after which the meeting adjourned to refreshments, a smoker and a general social evening. Those who were not present have just cause for regret.

C. F. SMITH, *Secretary*.

WHEREAS, An abundance of gray matter is not to be found in the crania of many people, whereby they become victims of sharks and pretenders, and

WHEREAS, From a humanitarian standpoint, it is the duty of the wise to protect the foolish and the strong to uphold the weak, therefore be it

*Resolved*, That the Kankakee Medical Society

heartily endorses the course of the *Chicago Tribune* in its exposé of the methods of self-styled "eminent physicians" who prey upon an unsuspecting public, much to the detriment of the public's pocketbook and health; that this campaign of education must be of worldwide benefit and worthy of support by every conscientious citizen. And further

*Resolved*, That the Kankakee County Medical Society views with pleasure and satisfaction the effort being made by the Illinois State Medical Society for honest surgery and honest medicine; two things our noble profession is entitled to; and be it again

*Resolved*, That these resolutions be spread upon the records, a copy sent to the *Chicago Tribune*, a copy to the Illinois State Medical Society and a copy to each of our three Kankakee papers.

DR. C. F. SMITH.

Unanimously adopted December 11, 1913.

#### ROCK ISLAND COUNTY

Twenty-eight members attended the regular meeting of Rock Island County Medical Society, held at New Harper hotel, Rock Island, on Tuesday evening, December 9. President Snively occupied the chair. Dr. G. D. Hauberg of Moline and Dr. R. B. Miller of Rock Island were elected to membership. The application of Dr. D. B. Freeman was rejected. Application was read on behalf of Dr. C. E. Robb of Rock Island and the usual investigating committee appointed—Drs. Eddy, First and Hall. Communications from Illinois State Medical Society committee and from the Red Cross work committee of the American Medical Association were read and were filed, on motion. Dr. First, for the committee on public school medical supervision requested and was granted more time for investigation. Two sets of resolutions were adopted:

WHEREAS, It has recently become a custom of some newspapers to publish physician's names in connection with accidents, operations and work which pertains wholly to the medical profession, and

WHEREAS, Such publication is contrary to the code of ethics of the American Medical Association, therefore be it

*Resolved*, That we, as a society, express our disapproval of such publication and instruct our secretary to request each of the local papers to discontinue such publication.

Signed: G. A. WIGGINS,  
A. E. WILLIAMS,  
*Committee*.

WHEREAS, The *Chicago Daily Tribune* has seen fit, in its usual up-to-date method of doing things, to go after irregular and quack medical and other "healers" in the United States, and

WHEREAS, This society has always been opposed to methods of graft and humbug, therefore let it be

*Resolved*, That we heartily endorse the *Chicago Daily Tribune* in its war on quacks, and let it be

*Resolved Further*, That we, as a society, hereby



pledge our support, in so far as is possible, in helping to show up quacks in this vicinity. And be it further

*Resolved*, That a copy of these resolutions be spread upon our minutes and that a copy be sent to the *Chicago Tribune* and one each to our daily papers.

Signed: E. M. SALA,  
C. BERNHARDI, SR.  
C. E. DONAHOO,  
*Committee.*

Extemporaneous reports were heard from several members covering the Chicago meeting of the Clinical Congress of Surgeons of North America. The papers of Dr. R. F. Winsor, "The Goldsol Reaction," and Dr. G. L. Eyster, "The Surgical Treatment of Varix of the Lower Extremities," we listened to with attention and met with full discussion.

Adjourned. Next meeting to be in Moline, February 10.

W. D. CHAPMAN, *Secretary.*

### WINNEBAGO COUNTY

*Regular Meeting, November 18, 1913.*

The Winnebago County Medical Society met at Nelson hotel, Rockford, Ill., November 18, Dr. Emil Lofgren in the chair. Members present, eleven. The minutes of the October session were read and approved.

Dr. S. D. Wilgus of Ransom's Sanitarium, Rockford, Ill., spoke on "Insanity from a Common Practitioner's Viewpoint." His talk was well received by those present, and it merited a better attendance. The bad weather, however, kept the fellow members near their homes.

Adjournment.

DR. RANSEEN, *Secretary.*

*Regular Meeting, December 9, 1913.*

The December meeting of the Winnebago County Medical Society was held December 9 at St. Anthony's hospital, Rockford, Ill., Dr. Emil Lofgren in the chair. Members present, twenty-four. The minutes of the previous meeting were read and approved.

The president introduced Dr. Edward C. Seufert of Chicago, professor of medicine at Chicago College of Medicine and Surgery, as the speaker of the evening. The doctor gave the society an original paper on "Polycythemia of the Blood, with Enlarged Spleen and Chronic Cyanosis." He emphasized the rarity of this disease—only fourteen cases being recorded in the United States, and two of these the doctor's own cases. On these two cases the speaker based his talk, which was not only instructive, but very interesting. Discussion followed. The society gave Dr. Seufert a vote of thanks for his able address.

Seven new members were voted into the society: Drs. Gerald Alben, William O'Donnell, S. D. Wilgus, Joseph Lundholm, Roy Kile, W. P. Burdick and I. J. Heckman, all residents of Rockford.

On December 2 the society lost through death one

of its members, Dr. Rockwood Sager. The president, following this sad death, appointed a committee of three—Drs. Hatch, R. L. Markley and Olaf Nordvall—to draw up resolutions expressing the sincere sympathy of the Winnebago County Medical Society, and the loss it has sustained, and to forward these resolutions to Mrs. Sager. The society at this meeting voted that the secretary spread these resolutions on the minutes.

The following nominations were announced for the annual meeting in January, 1914: For president, Dr. D. B. Penniman and Dr. E. E. Ochsner; for vice-president, Dr. George P. Gill; for secretary-treasurer, Dr. C. M. Ranseen; for delegate to the state meeting, Dr. Edward Wild, Dr. H. M. Starkey and Dr. John E. Tuit; for alternate delegate to the state meeting, Dr. W. H. Cunningham.

Dr. Edward Wild made a motion that the society at its annual meeting in January consider raising the price for a professional call to \$2. Motion was seconded and carried.

It was moved and seconded that the society hold a banquet at its annual meeting in January, 1914. Motion carried. The following committee on arrangements was appointed by the president: Drs. B. Francescki, W. H. Cunningham and T. F. Kinley.

Dr. H. M. Starkey moved that the secretary be allowed to form and have printed membership application blanks. Motion was seconded and carried.

Adjourned.

DR. C. M. RANSEEN, *Secretary.*

### Personals

Dr. and Mrs. T. P. Holke, Peotone, sailed for Europe, November 22.

Dr. C. L. O'Brien, Chicago, has opened an office at 59 E. Madison street.

Dr. and Mrs. W. H. C. Smith, Godfrey, have returned from the Canal Zone.

Dr. A. B. Middleton, of Pontiac, left Jan. 1 for Vienna, where he will spend six months.

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Dr. C. B. Welton, Peoria, and Dr. Sarah A. Noble, Chicago, have returned from Europe.

Dr. Faith Spangler, assistant at the Dunning State Hospital, has been transferred to the Elgin State Hospital.

Dr. Harry M. Hayes, Peoria, who has been seriously ill at the Proctor Hospital with typhoid fever, is reported to be improving.

Dr. W. H. Watterson of Waukegan, has accepted a position as superintendent of the Taylor Sanitarium at Pokegama, Minn.

Drs. R. R. and H. F. McCarthy, assistant physicians at the Elgin State Hospital, have been transferred to the Dunning State Hospital.

Dr. and Mrs. Plumer M. Woodworth, who have been spending four months in California, have left for Honolulu, where they will spend the winter.

Dr. E. M. Brown of Chicago, with his wife and four-year-old son, had a miraculous escape when his automobile was caught between two street cars and crushed "into kindling wood."

Dr. George A. Zeller, superintendent of the Peoria State Hospital, has been appointed alienist of the state board of administration, vice Dr. Frank P. Norbury, Springfield, resigned.

Dr. Charles F. Sanborn, assistant superintendent of Cook County Hospital, has been appointed superintendent of the splendid new Cincinnati General Hospital, to which we referred in November.

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### Removals

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Dr. J. H. Lacey of Albion, has removed to Denver, Colo., and Dr. R. L. Moter of Browns, has removed to Albion. He, in turn, was succeeded by Dr. Parmenter of Belmont. Dr. L. B. Hayman, Chicago, announces the removal of his office to 5 South Wabash avenue.

Dr. and Mrs. Charles Adams left Chicago for their new home in Honolulu, T. H., November 22.

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### News Notes

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—The North Central Illinois Medical Association met at La Salle, December 9. President, Dr. George A. Dicus, Streator.

—The Cook County Board has awarded the contract for the tuberculosis hospital and other buildings at Oak Forest for \$581,467.

—The Kewanee Physicians' Club was organized December 4. President, Dr. H. Nelson Heflin; secretary-treasurer, Dr. Francis O. Lowe.

—Fox River Valley Medical Society met at Aurora, November 18. President, Dr. Raymond G. Scott, Geneva; vice-president, Dr. Ora L. Pelton, Elgin.

—Dr. Frank Parsons Norbury, Springfield, and Dr. Albert H. Dollear, Hospital, have purchased

Maplewood Sanatorium, Jacksonville, which was originally established by Dr. Norbury in 1901.

—The finance committee of the city council voted November 25 to purchase about 18 acres of land, lying south of the bridewell, for \$185,000. The site is to be used for a new isolation hospital and for other municipal buildings.

—The superintendent of the Watertown State Hospital announces that, as the asylum is now crowded with insane patients, inebriates and other patients not insane will not be admitted to the hospital in the future.

—The hospital at the Navy Training Station, Great Lakes, constructed by the government at great expense, is not to be reopened as it is considered an unnecessary expense to operate a large hospital when there are so few men stationed at the station.

—Through the beneficence of Mr. F. W. Matthiessen, La Salle, the cities of La Salle, Peru and Oglesby are to have a model health bureau in charge of an expert commissioner, health officers and sanitary inspectors. The expense of the undertaking will be about \$20,000.

—The Illinois Association for the Conservation of Vision and Prevention of Blindness accepted an invitation extended by the Illuminating Engineering Society to attend a demonstration of "Five Years' Progress in Indirect Illumination," December 10. One department of the work of the association is closely connected with the matters of illumination, eye fatigue, etc.

—In the Chicago city budget for 1914 the commissioner of health asked for \$1,160,278 for his department and the comptroller reduced this estimate by \$220,497, leaving the recommended apportionment \$2,870 less than last year. The health commissioner has made a vigorous protest, as he maintains that with this reduction the department will be dangerously crippled by lack of funds.

—Superintendent R. T. Hinton of the Elgin State Hospital, is organizing a consulting staff of Elgin physicians. It will consist of one physician in each line of practice. Members will be called to the hospital whenever any serious medical or surgical cases arise. The consulting staff so far as made out will consist of Dr. O. L. Pelton



on surgery, Dr. L. J. Hughes on eye, ear, nose and throat and Dr. A. L. Mann on internal medicine.

—The artists' fête to be given in the First Regiment Armory, January 9, is for the benefit of the new Chicago Lying-in Hospital, which is to be located on Fifty-First street facing Washington Park. The building is to be six stories, fireproof, with six operating rooms, five nurseries, two laboratories and four incubators. There will be beds for 105 mothers and their babies, and one-third of the hospital will be given up to free patients.

—*Clinical Medicine*, like the Xmas numbers of the popular magazines, announces a program of attractive papers for the coming year by men who command wide attention whatever subject their pens attack. Among the announced writers are Dr. G. Frank Lydston on "Modern Treatment of Syphilis" and "Treatment of Impotence in the Male." Dr. Wm. J. Robinson of New York, on "Management of Venereal and Sexual Diseases." Dr. B. G. R. Williams of Paris, Ill., on "Some Precise Methods of Diagnosis and Treatment." Others will write on a great variety of subjects. A series of plans of doctor's homes, offices and hospitals by a Chicago architect promises an interesting study.

—At a meeting of the Madison County Medical Society held in Granite City on November 7, 1913, the following resolution offered by Dr. R. S. Barnsback of Edwardsville, was unanimously adopted:

Since Madison county has enjoyed the distinction of having one representative on the State Board of Health, for several years past, and since recently His Excellency the Governor has appointed another of our fellow practitioners to continue in such capacity, be it

*Resolved*, That the Madison County Medical Society, as well as its members individually, extend to the recent appointee, Dr. R. D. Luster, our heartiest congratulations for his state-wide recognition; and that we individually and collectively urgently request Dr. Luster, our honored representative, to use all his influence and power to assist the profession of the state to expel quackery in all its forms, and to discourage all members of the profession from taking "Contract Practice," to use every honorable means to uphold fair and living compensation for all pro-

fessional services, to combat in every way the belittling practices of underbidding, and to bring about, through the state board and other agencies at its command, a thorough and systematic campaign of popular education on the scientific attainments of the profession to the end that the dignity and high standing of the medical profession may be better understood and more appreciated by the entire citizenship of this country. —*From the Madison County Doctor.*

—We have received the following publications: The *News-Letter* of the Englewood Branch, Chicago Medical Society, the *Bulletins* of the Chicago Medical Society, the *Madison County Doctor*, the *Bulletin* of the Montgomery County Medical Society, *Sangamon County Medical Society Bulletin*, the *Bulletin* of the Vermilion County Medical Society. Also programs of the Elgin Physicians' Club meetings for 1913-1914, and the program of the North Central Illinois Medical Society meeting of Dec. 2 and 3, at La Salle. All the bulletins contain matter of interest to the members and in style and contents show that the local secretaries and editors are alive to the interests of the profession. The *News-Letter* is replete with verse as usual. The *Madison County Doctor* runs the Red Cross Seal with a plea from Dr. F. E. Tulley of Granite City, who is a censor of the society and executive secretary of the Madison County Antituberculosis Society. Obituaries of Drs. Edward Clark Lemen and Titus P. Yerkes note the active and prominent place both doctors occupied both professionally and socially in the community. The *Bulletin* of Montgomery County states that the membership contains 100 per cent., presumably of the eligible doctors. It also contains an extract from the Principles of Medical Ethics of the A. M. A., which it calls the "Doctor's Bible." That's right. If you furnish the bible we will fake up a "Litany," now and then. Dr. T. H. D. Griffiths, in the *Sangamon County Bulletin*, starts a campaign to have the State Society purchase a permanent home and library in Springfield where all meetings could be held.

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The First Trust and Savings Bank, Chicago, is distributing an ingenious computer of parcel post rates to all cities in the United States of over 25,000 population and to all cities in Illinois, Indiana and Wisconsin of 5,000. The rates are computed from Chicago.

## Book Notices

**THE SURGICAL CLINICS OF JOHN B. MURPHY, M. D.,** at Mercy Hospital, Chicago. Volume II, No. 5, (October, 1913). Octavo of 174 pages, 32 illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Published bi-monthly. Price per year: Paper, \$8.00; cloth, \$12.00.

This number is, as usual, full of interest. Among the subjects of especial interest are "Osteitis Fibrosa Cystica" of the upper end of the femur, not involving the head and neck; "Sarcoma of the Thymus Gland"; "Ankylosis of Knee," with old focus of infections in tissues outside of the knee; "Congenital Idiopathic Dilatation of the Colon"; ankylosis of hip following sore throat; tumor of femur; abdominal fecal fistula following puncture of uterus by curet and drainage of retro-uterine abscess.

These clinics are beneficial not only to the surgeon, but also to the medical man. Diagnosis is always given prominence.

**THE PRACTITIONER'S VISITING LIST for 1914.** An invaluable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years. Price by mail, postpaid, to any address, \$1.25. Thumb-letter index, 25 cents extra. Descriptive circular showing the several styles sent on request. Lea & Febiger, publishers, Philadelphia and New York.

**THE MEDICAL AND SANITARY INSPECTION OF SCHOOLS.** By S. W. Newmayer, A. B., M. D., in charge of the Division of Child Hygiene, Bureau of Health, Philadelphia. 12 mo., 318 pages, with 71 engravings and 14 full-page plates. Cloth, \$2.50 net. Lea & Febiger, publishers, Philadelphia and New York, 1913.

Of especial interest to the school doctor or nurse, or the visiting nurse, or to anyone engaged in public health work, is "Newmayer's Medical and Sanitary Inspection of Schools."

The work is well illustrated, and covers the field of school inspection quite thoroughly. The work also deals with methods of advancing the mentally deficient children. Considerable attention is given to inspection and sanitation of school buildings.

We recommend this book to those working along the lines of medical inspection and sanitation.

**PYORRHEA ALVEOLARIS.** By Friedrich Hecker, B. Sc., D. D. S., A. M., M. D. Member of the Academy of Science of St. Louis, Mo.; consultant at Bell Memorial Hospital of the School of Medicine, University of Kansas; consultant at St. Margaret's Hospital, Kansas City, Kan. Illustrated. St. Louis: C. V. Mosby Company, 1913. Price, \$2.00.

Physicians are paying more attention in late years to the teeth than they formerly did. The teeth and gums are an important part of the anatomy, and should receive more attention than is given to them.

The author of this little work does not take the commonly accepted view of this subject, but thinks the aetiology as primarily constitutional, and classifies the numerous varieties accordingly. His prognosis in many of the forms is better than we are generally taught to believe, and autogenous vaccines play an important role in the treatment given.

The work is intended for both physicians and dentists.

**CAUSES AND CURES OF CRIME.** By Thomas Speed Mosby, member of the American bar; former pardon attorney of the State of Missouri; member American Institute of Criminal Law and Criminology. Author of "Capital Punishment," "Youthful Criminals," "Alcoholism and Crime," "Mothers of Bad Boys," and other essays. Illustrated. St. Louis. C. V. Mosby Company, 1913. Price, \$2.00.

This is one of the very interesting books we have read this year. The author has had a large opportunity for the observation of criminals, and whether or not one agrees with him on all points, we must give him credit for extensive study of these subjects.

The chapter on eugenics is especially interesting and instructive. One point the author particularly emphasizes is, that eugenics is not all that is required—the manner and mode of living is important; the environment is of utmost importance. Sterilization of the habitual criminal is discussed extensively. The causes of crime and the theory of punishment are likewise studied.

**MEDICAL RESEARCH AND EDUCATION,** by Richard M. Pearce, The University of Pennsylvania; William H. Welch, W. H. Howell, Franklin P. Mall, Lewellys F. Barker, The Johns Hopkins University; Charles S. Minot, W. B. Cannon, W. T. Councilman, Theobald Smith, Harvard University; G. N. Stewart, Western Reserve University; C. M. Jackson, E. P. Lyon, University of Minnesota; James B. Herrick, Rush Medical College; John M. Dodson, University of Chicago; C. R. Bardeen, University of Wisconsin; W. Ophuls, Stanford University; S. J. Meltzer, Rockefeller Institute for Medical Research; James Ewing, Cornell University Medical College; W. W. Keen, Jefferson Medical College; Henry H. Donaldson, Wistar Institute of Anatomy; the late C. A. Herter, Columbia University; the late Henry B. Bowditch, Harvard University. The Science Press, New York and Garrison, N. Y., 1913.

This is Volume II. of a series of volumes for the promotion of scientific research and educational progress.

The book is a collection of lectures delivered by the several authors at various times and places, all of them bearing upon medical research and education or medical institutions.



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXV

CHICAGO, ILL., FEBRUARY, 1914

FEB 21 1914

No. 2

## Original Articles

### SOME RARER FRACTURES ABOUT THE WRIST JOINT

D. B. PHLEMISTER, M.D.

From the Surgical Clinic, Rush Medical College, Chicago.

Before the introduction of the x-ray, lesions about the wrist joint produced by fall upon the outstretched hand were regarded as entirely too simple by the majority of practitioners. What was not a sprain of the wrist was classed under the general head of Colles' fracture, and therewith the diagnosis was at an end; or, if the fracture occurred in a location somewhat remote from the wrist joint, the reasons for its occurrence were not sufficiently understood.

Since this convenient simplicity of sprain and Colles' fracture has been discarded and careful physical examinations have been supplemented by the use of the x-ray, sprains have become less numerous, carpal bone fractures fairly common, and fractures of the bones of the forearm so various that one hardly knows what to classify longer under the old term of a "typical Colles'." In the surgical department at Rush Medical College, I have had the opportunity of studying a large material and want to present certain of the cases that are of interest, either because of their rarity or of the special factors concerned in their production.

In case of a fall or blow upon the outstretched hand, the force is transmitted from the carpus, largely through the scaphoid and semilunar to the radius of the forearm, the ulnar side participating to a much less extent; consequently, these are the bones which are most often injured in fractures of their respective portions. Forearm lesions constitute the great majority and will be considered first. The location, nature

and extent of the fracture vary greatly, according to the strength and flexibility of the bones, the direction of the force and severity of the violence. Early in life the bones of the forearm are flexible throughout their entire length, so that a bending force results in a bowing about the middle. This flexibility decreases with increasing age, and is almost entirely lost by the time adult life is reached. It diminishes first in the diaphysis, due largely to the increased thickness, so that during adolescence about all of the remaining small degree of flexibility which the bones possesses is confined to the ends (the metaphyses and the epiphyses). In the rigid and more completely ossified adult bones the ends are the weakest portions and fractures due to indirect violence are practically all located here, but in the incompletely ossified, slightly flexible bones of adolescents they are inclined to occur about the point where flexible meets resistant portion, which is usually in the metaphysis. The line of force is variable. It is seldom entirely in the long axis of the forearm, but usually partly at an angle to it, so that the effect of the combination of force upon the bones is to produce both impaction and flexion. The nature of the deformity and displacement depends largely upon the line of force and the extent of fracture varies with the degree of violence from an incomplete or a green stick fracture of the radius when mild, to a complete fracture of both radius and ulna when severe.

During the first few years of life, while the bones are flexible in their entire extent, nearly all the fractures resulting from a fall upon the outstretched hand are located about the middle of the forearm. It is rare to see a fracture near the wrist joint before the eighth year. The extent of fracture depends upon the severity of the violence, varying from a green-stick fracture either of the radius alone or of both radius and

\*Read at the sixty-third annual meeting of the Illinois State Medical Society, at Peoria, May 21, 1913.

ulna, when mild, a complete fracture of the radius and a green stick of the ulna, or a complete fracture of both bones, when severe.

During late childhood and adolescence, when the shafts of the bones become more resistant and the metaphyses and epiphyses are still slightly flexible, the seat of fracture shifts toward the lower end, but is located somewhat higher than in adults. When the force is mild, a lesion in the radius frequently occurs to which the term of *folding fracture* has been applied. It is caused in the following manner: As a result of the force acting in the long axis of the bone, its cortex bulges outward in the region of the somewhat flexible metaphysis after the fashion of a heated segment of an iron rod when struck upon the end. This produces a transverse ridge upon the surface, which in some cases is so marked as to be distinctly palpable on examination. Since there is usually a combination of flexion and impaction, the folding occurs either upon one side only, or is more marked upon one side than the other. This fracture has been met with five times during the past two years, and is of great importance among the fractures occurring at this age. It has been extensively studied in Germany, particularly by Kohl and Iselin, who have noted its occurrence in other locations, as the upper end of the humerus, and the lower ends of the femur and tibia. In one instance where the bending force was marked the cortex on one side folded inward, producing a groove instead of a ridge across the surface of the metaphysis. Because of the mildness of the blow producing this type of fracture, associated lesion of the ulna is rare. A probable diagnosis of folding fracture can usually be made without the aid of the x-ray. The subjective symptoms are mild; there is slight swelling, but no other deformity. The seat of the tenderness is located from one to two inches above the wrist, and sometimes a transverse ridge can be palpated at this point. There is absence of crepitus and of a false point of motion.

Separation of the lower radial epiphysis is of rare occurrence. There have been only three cases in the material of the last two years. It occurs usually between the ages of 10 and 16, being very rare in young children, because at that age the incompletely ossified and flexible epi-

physis bends instead of offering sufficient resistance to cause a tear through the epiphyseal line. The displacement is nearly always backward. Anteriorly, the periosteum tears and separation is through the line, but posteriorly the lower margin of the shaft is usually chipped off and remains adherent to the epiphysis. (Fig. 2.) Arrested longitudinal growth may follow imperfect reduction. Longitudinal splitting of the epiphysis may occur, and, in case of diastasis of fragments with interruption of the epiphyseal line, a Y-shaped growth of the end of the shaft may result. Fig. 3 is from a 10-year-old boy who fell and injured his wrist five years before.



Fig. 1. (a) Folding Fracture in 16-Year-Old Boy.

Fig. 1. (b) Folding Fracture in 13-Year-Old Boy.

It was followed by pain, which lasted for months and stiffness which has been permanent. The epiphysis is seen divided into two portions, which are moderately separated, and the radial metaphysis is forked for a distance one-half inch, which represents the extent of growth since the damage was done. There is concentric atrophy of the shaft of the radius and atrophy, with irregularity in outline of the carpal bones. Although all active signs were absent at the time of examination, it is most probable that tuberculosis followed the traumatism and produced these changes. However, the history is that of a severe injury which was not treated by immobil-



ization, and the entire process may be the result of traumatism and disuse.

Double fracture of the radius from indirect violence was met with in one instance. A seven-year-old girl fell upon the outstretched hand while roller skating, receiving an incomplete



Fig. 2. Separation and Backward Dislocation of Lower Radial Epiphysis. Front and Side Views.

fracture through the end of the shaft, and a complete fracture of both bones about the middle of the forearm.

It is not the object of this paper to discuss Colles' fracture further than to call attention to a few common errors in connection with the lesion. Patients would be better off if the term were abolished, since uniform diagnosis of Colles' fracture in the hands of the less experienced leads to a uniform method of treatment with disastrous results in certain cases. Certain uncommon fractures in this location have acquired special names. Reversed Colles' fracture is one in which the lower fragment is anteriorly displaced. Barton's fracture is one in which the posterior margin of the end of the radius is chipped off and backwardly displaced along with the subluxated carpal bones. Reversed Barton's is the opposite of this, where the anterior margin is chipped off and anteriorly displaced. Impaction in Colles' fracture frequently occurs, but both

clinical and x-ray observation show that its importance has been exaggerated. X-ray pictures of old unreduced cases show a bony callus bridging the angle posteriorly, and this may be mistaken for the posterior cortex of the lower fragment leading to the false conclusion that the anterior cortex has been impacted in the medullary cavity of the upper fragment. In reducing the fracture, it is important not only to bring the fractured ends into contact, but also to correct the angulation. In cases of oblique intra-articular fracture, reduce the overriding of the chipped off fragment and the subluxation of the carpal bones. Neglect of either of these conditions causes a tilting of the plane of the wrist joint, and consequently almost as much impairment of function as results from failure to approximate the ends of the fragments. (Fig. 4, a.)

Lesions of the carpal bones have all occurred in adults and have been met with much more frequently than one is ordinarily led to suppose. The cases have all come late, and nearly all had

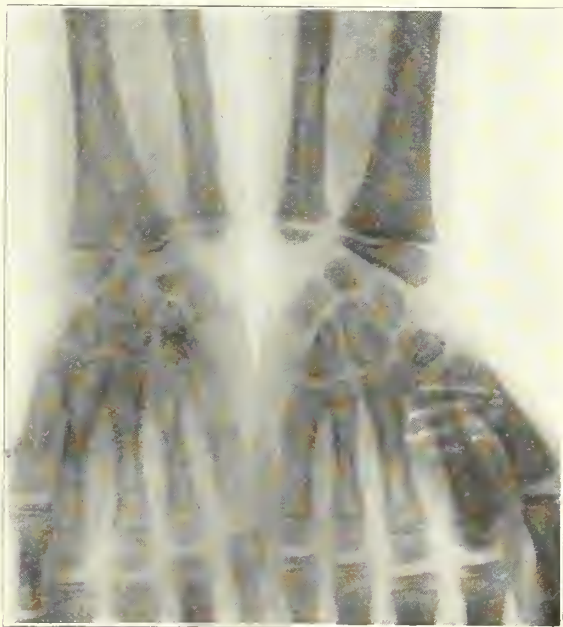


Fig. 3. Showing Divided Epiphysis and Y-Shaped Growth of End of Shaft.

been treated elsewhere under the mistaken diagnosis of either a sprain of the wrist or Colles' fracture. A common lesion is fracture through the neck of the scaphoid without any displacement of fragments. These cases have troublesome symptoms of stiffness, pain and tenderness

in the region of the scaphoid, lasting for weeks or months, but eventually clear up entirely. The wrist joint should be immobilized for two or three weeks, as it undoubtedly shortens the convalescence. Another common and much more serious lesion is fracture through the neck of the scaphoid with anterior dislocation of the semilunar and of the proximal fragment of the scaphoid which is adherent to it. Fig. 4 (b) and (c). This produces a characteristic picture which can be diagnosed without the aid of the x-ray. Pain, tenderness and loss of function are marked. A circumscribed swelling is present upon the anterior surface of the wrist, due to the

been met with in one instance and give symptoms very similar to those of fracture of the scaphoid, except the location of the tenderness.

Fracture of the carpal bones associated with Colles' fracture is rare, according to the general rule that when the bone or bones on one side of a joint give way, those on the other side remain intact.

#### "LEST WE FORGET" OUR LYMPHATICS\*

W. F. GRINSTEAD, M.D.

CAIRO, ILL.

In the Latin language *lymph*a meant "a spring of water." Our circulating lymph was named



Fig. 4. (a) Colles' Fracture with Angulation of Fragments and Obliquity of Plane of Wrist Joint.

Fig. 4. (b) Fracture of Scaphoid.

Fig. 4. (c) Fracture of Scaphoid with Anterior Dislocation of Semilunar and Proximal Fragment of Scaphoid.

dislocated bones, and the head of the os magnum, beneath which they rest, is unduly prominent upon the dorsum of the wrist. The x-ray shows a shortening in the carpus and a fracture of the scaphoid with anterior displacement of its proximal fragment and of the semilunar. The symptoms are apt to be severe, and last for months or years, in which case the dislocated bones should be removed through an anterior incision. Crushing fracture of the semilunar has

on account of its clear, watery appearance.

"A fountain bubbled up whose lymph serene nothing of earthly mixture might distain." The caption under which these lines are written is suggestive, not of some new, original scientific discovery with which to electrify you, but a reminder of some useful knowledge which we are all inclined to forget. My observation of the character of a few conspicuously wise and re-

\*Read before the Southern Illinois Medical Association, Nov. 7, 1913.



markably sagacious people whom I have chanced to know personally, has impressed me with the thought that their wisdom consisted, not so much of the unusual fund of information which they had acquired, but the extraordinary capacity for retaining that which they had learned and the consequent ability to summon it for practical use on a moment's notice. More than once I have remarked to my associates that I would be the smartest doctor in Egypt if I could recall for instant use practical information which I had at one time or another acquired and thoroughly understood. This declaration was based on the observation that others forget as well as myself.

With the exception of the epithelium, cartilage, hair and nails, all the tissues in our bodies are bathed in lymph. The lymph is obtained from the plasma of the blood. Plasma is defined as "the original undifferentiated substance of nascent living matter." The lymph brings to the tissue cells the elements of nutrition and gathers from them the products of waste and carries them into the blood. From the blood, this waste material is eliminated by the various emunctories which act as a sewerage system. This process of nutrition and elimination which is called metabolism, never ceases; therefore the lymph is always on duty. The tissue change called metabolism is partly constructive and partly destructive. The constructive process is known as anabolism, the destructive as katabolism. It is interesting to trace out the route through which travels the lymph from the point where it leaves the blood capillaries by osmosis to the point where it is returned to the blood by lateral anastomosis of the lymphatic ducts with the subclavian veins. The tissues involved, or to speak more correctly, the anatomical system comprised, consists of lymph spaces, lymph ducts and lymph glands. The areolæ in the connective tissue throughout our bodies are lymph spaces into which the lymph exudes from the blood. The cavities of the pericardium, the pleura and the peritoneum are lymph spaces. Stomata or mouths imbibe the lymph from these spaces and pass it on to the ducts.

While writing this page I have two patients whose peritoneal stomata are drinking in lymph which I don't want them to have. It is infected and I would give the two nice fees vouchsafed to me in these cases, and some more, for a trustworthy means of blocking those mouths. From

these spaces the lymph passes into the lymph capillaries, thence to the larger channels which are called absorbents. This name had its origin in the fact that they absorb certain material and convey it into the blood. These absorbents are closely associated with the blood vessels throughout the system. They are tributaries to the largest lymph channels, which are called lymphatic ducts. These ducts are known in anatomy as the right and the left lymphatic ducts. The left is the larger and the longer and gathers the lymph from a more extensive area than the right and is called the thoracic duct. It drains all the body below the diaphragm. It also drains the left half of the body above the diaphragm. The right lymphatic duct drains the right side of the head and neck, the right arm, right side of chest, the right lung and convex surface of liver. The right lymph duct empties into the right subclavian vein near where the internal jugular vein empties into the subclavian. The thoracic duct takes its origin from the receptaculum chyli, a small, triangular cavity situated in front of the first two lumbar vertebræ. It ascends thence through the entire chest cavity (hence its name), and empties into the left subclavian vein near the mouth of the internal jugular.

A network of lymphatics may be traced in every direction in the abdomen and pelvis, leading to the receptaculum chyli. As stated above, the lymph combines and transports various materials. It is now taught that the thyroid gland, which has no duct, is drained by the lymphatic vessels. In that distressing and dangerous malady, exophthalmic goiter, the thyroid secretion is produced in excess of the normal and is taken up by the connecting lymphatics and dumped into the blood stream, creating the condition of hyper-thyroidism which we call Grave's disease. At this point the temptation is great to dilate upon the subject of hyper-thyroidism and the lesson that surgeons have learned from it which enables them to cure the great majority of those patients which were formerly regarded as almost hopeless. Such a digression, however, would be beside my subject and would be unpardonable.

That "there are exceptions to all rules," has become proverbial. At our first step we learned that *lymph* was the Latin word for water and that the clear, watery character of lymph suggested its name.

Now the lymph that is gathered from the small

intestine is not clear, but milky in color. Lac was the word for milk; therefore the lymphatics of the small intestine are called lacteals. They are loaded with the nutritional elements of our food in an emulsified form called chyle. The stomach delivers our food to the small intestine in a half-digested mass called chyme. The secretions of the intestinal glands, together with the secretions of the liver and pancreas, are poured in with it to prepare it for the lacteals. The emulsified fatty elements, for the most part, lend the milky color.

I heard a distinguished surgeon say in his clinic that, "We eat with our small intestines and drink with our colons." True it is that the contents of the small intestine leave it in a liquid state. It is thus delivered to the colon, which proceeds to dry it out by absorption till it is converted into a semi-solid and sometimes almost a solid mass before it is extruded as fecal waste.

Having glanced at the lymph, the lymph spaces, the lymphatics or absorbents, the lacteals and the larger lymph channels called ducts, we will turn our attention to the most important subdivision of the lymphatic system, viz., the lymphatic glands.

These are filters placed at intervals along the lymphatic channels. They often catch deleterious substances that are unfit and unwholesome to be delivered to the blood stream. They are our friends and are always on guard. This is not all they do for us. They contribute to our supply of white blood corpuscles—our leucocytes. They appear to be parent to the lymphocytes which are found in them and in the blood. It is not improbable that the mono-nuclear and poly-nuclear leucocytes are lymphocytes in a more advanced stage. Let me quote what the "American Text Book of Physiology" states on this point: "It is impossible to say whether these varieties of blood leucocytes are distinct histological units, which have independent origins, and more or less dissimilar functions, or whether, as seems more probable to the writer, they represent different stages in development of a single type of cell, the lymphocytes forming the youngest and the polymorphic or polynucleated leucocytes the oldest stage." Some of these leucocytes gulp down and digest and make harmless certainly deadly pathogenic bacteria when their appetites are whetted up; and we have learned how to

whet them up. Our opsonic index shows us how hungry they are. We call these leucocytes phagocytes because they eat up the enemy. Those that are not phagocytic may form immunity proteids that render the body fluids inimical to the habitation and proliferation of certain murderous microbes.

Notwithstanding the life-saving defense offered by the lymphatic glands just mentioned, they themselves are often invaded and destroyed by the enemy. We are then compelled to cast them out, as a leper must be removed from his home and his friends. This may be illustrated by the lymph nodes produced by cancer and tuberculosis. Before the modern surgeon attempts to excise an epithelioma from the tongue, he will cut his patient's throat and dissect out his submental and submaxillary glands. These glands may have picked up infected lymph emboli. When he amputates a breast for carcinoma, he follows up the lymphatic vessels and glands to the armpit and endeavors to remove them *en masse* without opening the capsule of a gland or allowing a drop of lymph to escape from a lymph vessel. These precautionary measures, together with the intelligent use of the immunizing serums, enable us to render the greatest assistance to our good friends, the lymphatics.

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## HOO KWORM DISEASE WITH CASE REPORT.\*

CHARLES MOLZ, M.D.

MURPHYSBORO, ILL.

Hookworm disease is due to certain species of hookworm (*Ankylostoma duodenale*, sometimes called *Uncinaria duodenalis*, and *Necator americanus*), which live as parasites in the small intestines. It occurs in warm climates, or in temperate climates where the summers offer favorable conditions, or it may occur in warm mines. It occurs chiefly in persons who come in contact with damp earth, or with water contaminated with the larva of the parasites.

It is characterized by the discharge of the ova of the worm with the feces, by a progressive anemia, general weakness, lack of development in children, and may have special symptoms related to the digestive, circulatory or nervous systems.

It is occasionally fatal, but is amenable to

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\*Read before the Southern Illinois Medical Association, November 7, 1913.



proper treatment and proper hygienic measures.

As in typhoid fever, we also have hookworm carriers, who while themselves do not present any particular symptoms of the disease, may always have them present in the intestines and be disseminators of the disease.

Efforts have been made to prove that the disease existed as early as 1500 B. C., but it was not until within the past three centuries that much was known of the disease, and only within the past decade that scientific research has been directed toward its study and eradication.

The United States was thought to be free from the disease, although Stiles gives Pitt credit of speaking of the disease as early as 1808.

Dirt eating and anemia were frequently spoken of as existing among the negroes of the South, and in the early '80s it was conceded that the disease prevailed more frequently than previously thought. From this time on various clinicians began studying the disease and its conditions, and about 1900 it was found that the South was pretty generally infected, and conclusions were drawn that many deaths accredited to tuberculosis, anemia, chlorosis and other diseases were in all probability due to hookworm.

Hookworm is found in nearly all southern countries of Europe and in the tropics in general, and in the United States it is conceded that the territory from the Potomac to Florida and Texas is infected. Of all southern states, the statement is made of Mississippi that up to 50 per cent. of the population were affected, and of the rural population of the southern half of the state that all have or have had the disease.

The climate for hookworm larva must be warm for proper development, and this explains the prevalence of the disease in the tropics. Sandy soil in the southern states is more favorable than clay, and moist soil better than dry.

Those whose occupation pertains to the soil are more easily affected than others, and it is more prevalent among the poorer classes.

Two modes of infection are known—by mouth and by the skin—but mouth infection is secondary, as many students of this disease claim that all infections are by the skin only.

Infection by drinking water has been recognized but rarely, as the larva of the worm has a tendency to sink in water and the water must be stirred up before drinking.

Food that has been contaminated by dirty hands, or vegetables that have been sprinkled with affected water may become a source of infection, and the improper way of disposing of feces and the fact that privies in the poorer rural districts are an unknown necessity explains the ease of infection from this source.

The pathologic changes that occur in a hookworm subject are many and varied, according to the degree of infection, but may affect any organ in the body, the most marked changes, however, being in the blood, and when we stop to consider that an ordinary case has from 1,000 to 4,000 worms, each of which is constantly and persistently sucking from the victim the very element necessary to bodily health, we can readily understand the varying degrees of anemia seen in this disease. It is estimated that 4,000,000 is the average daily deposit of eggs in these cases.

There is no disease in which the symptoms may be so variable and the disease may be present with any number of worms, varying from one to thousands. It is known that every worm present in the intestinal tract is an infection from without, as it is known that the patient can not infect himself, as the eggs can not hatch in the intestinal tract. Racial and individual immunity also have much to do with the variability of the symptoms in this disease.

Fatal cases are reported in which only ten or twelve worms are found, while thousands have been found in other cases.

The symptoms of hookworm disease are invariably those of loss of blood and the effects of a toxin which may also have a destructive action on the blood. It is thought that this is the primary symptom, all others being secondary to the long, continued loss of blood. To this may be added the symptoms of some intercurrent disease that may be present. One of the effects of the disease upon the digestive tract is the capricious appetite, in which dirt eating becomes prominent, and which has been a wonder among the negroes and poorer whites in the South for years, and not understood until the study of hookworm disease has been able to place this in its proper class.

Time will not permit the study of the various symptoms that may present themselves, but the absolute diagnosis can not be made without finding the worm or larva in the feces. It is pos-

sible, however, to diagnose it symptomatically if this disease is kept in mind, and particularly if the patient has lived or does live in the South and gives a history of having had ground itch within a few years. This trouble is also known as toe itch, water itch, water blister, water pox, dew poison, dew crack, mud itch, newsump bunches of Cornish miners, sore feet of coolies, pain-ghoo, mazomorro. Even a history of ground itch among the members of a patient's family without the patient himself having had it is indicative that the disease may be present and can only be eliminated by a microscopical examination of the feces.

Ground itch is recognized as the primary indication of the infection by most students of the disease, and although a similar skin lesion may be caused by other things, it is believed that nearly all cases are due to the hookworm larva, which penetrates the skin and migrates to the intestinal tract through various channels. Ground itch may be on any part of the body, and while more prevalent on the feet, it may very frequently occur on the buttocks in warm countries, due to the fact of the scant wearing apparel and to sitting on the ground.

At this time we might pause and think that while hookworm disease is not a disease of Southern Illinois, still with our large foreign population, largely miners and emigrated from southern Europe, where the disease is so prevalent, some of whom are no doubt infected, and with ground defecation in the mines, why can it not become more common in this section? It is not a probability that we are treating cases in which we have not made the true diagnosis? As the hookworm is macroscopical, will it not be well for us to make a more thorough examination of these patients?

The treatments are as many and varied as the symptoms, but nearly all investigators have become of the opinion that thymol, given in proper dosage and at proper intervals, is a specific for the eradication of the hookworm. Care must, however, be used in its administration and the patient kept under close observation while taking thymol, for many cases presenting toxic symptoms have been reported.

The only case that came to my attention in my practice was that of a girl aged 16, a resident of Florida until about one year ago, when she came to Murphysboro and accepted a position as nurse

girl. She was tall, but thin, and very anemic, had a dreamy expression, and became easily fatigued. Had fainting spells frequently and would have to stay in bed for hours at a time. Was irregular in menstruation, very scant and seemed more tired at this time. Menses appeared at the age of 14 and she and her relatives thought that all her troubles were due to menstrual disturbances. Bowels were constipated, appetite good; genito-urinary tract normal. Skin was sallow, mucous membranes very pale and hemoglobin about 60 Talquist scale. No blood count was made at any time. She was treated for anemia without any improvement, and one day the thought came to me that, being from Florida, she might be a hookworm subject, and on questioning as to whether she ever had an itch of the feet, she told me that she and her brother and sister, both at home, had had this itch about three years ago. I then felt sure that I had a case of this disease, and on proper examination of the feces, found the worms present. On thymol treatment she at once began to improve in weight, in health and in disposition and it was only a few weeks before her hemoglobin had become nearly 100 per cent. I was never able to find any worms in the feces after the first dose of thymol.

## THE SUBJECTIVE TESTS OF HEARING.\*

G. HENRY MUNDT, M. D., CHICAGO.

I feel that little excuse is necessary for the presentation of a paper on this subject, however, if my reasons were asked I should give the following:

1. The extreme importance of testing the hearing in doing good otological work.
2. The failure of many estimable otologists to recognize their importance.

The value of the subjective tests of hearing is chiefly in the realm of diagnosis, to determine the location of a lesion in the auditory apparatus. They are valuable as records to determine the progress of a given condition under treatment. They are also of some slight value, but in my opinion, usually very little, in determining the prognosis of a given case.

The subjective tests may be divided into two classes, the quantitative tests and the qualitative tests.

Quantitative Tests of Hearing — The chief value of the quantitative tests of hearing is to determine the progress of treatment. There are many quantitative tests, but in correspondence

\*Read at the sixty-third annual meeting of the eye, ear, nose and throat section, Illinois State Medical Society, at Peoria, May 21, 1913.



with a number of otologists, the four following were the only ones mentioned: 1, spoken voice, 2, watch, 3, acoumeter, 4, forced whisper.

**Spoken Voice Test**—The spoken voice would be an admirable test were it not for the fact that it is practically impossible for even one person to use the same tone of voice at two different times, much less for two different people to compare findings. The reason that I say that the spoken voice would be of value is because it is the desire of most patients to hear an ordinary conversation.

**Watch Test**—The watch is a valuable test; however, with it we determine the function of only a very small area of the range of hearing, also, unless a watch of one type is used, we cannot compare the findings of different otologists. I have used, for the past few years, an Ingersoll watch of the Yankee type, and it has been quite satisfactory, much more so than my ordinary timepiece, because the strike is much louder in an Ingersoll.

**Acoumeter Test**—The acoumeter has the same limits as the watch, and would be of use in practically no other case than where the patient is very deaf.

**Forced Whisper Test**—The forced whisper is, in my estimation, the most valuable of the quantitative tests of hearing. The forced whisper of two individuals will be of about the same intensity if properly given, and by that I mean a whisper given after a medium expiration. In using any voice test, and this applies to the forced whisper especially, we should use compound numbers, as 22, 44, 66, and the like. It will be found that compound numbers low in the tone scale will be heard a shorter distance by the average individual than the higher tones, and it has been my practice to make two records in the forced whisper test, one for the low and one for the high tones.

**Qualitative Tests of Hearing**—The qualitative tests of hearing are chiefly of value in determining the location of the pathological processes in the auditory apparatus, however, they may be of some prognostic value. In conducting these tests we must bear three things in mind.

1. The division of the auditory apparatus: In the division of the auditory apparatus, all from without into and including the foot plate of the

stapes, is known as the apparatus of conduction, while all internal to the foot plate of the stapes back to and including the cortex is known as the apparatus of perception.

2. The range of hearing: The human ear is able to perceive tones ranging from about 16 double vibrations per second to about 48,000 double vibrations per second.

3. Sounds may reach the apparatus of perception by two routes: First, by bone conduction, that is, through the bones of the cranium, and this is of considerable more importance than it would seem to be on the surface. Quite a proportion of ordinary useful tones would be heard by the normal individual if the ears, nose and mouth were sealed, which would preclude the possibility of the tones entering by way of the membrana tympani and the ossicles.

Second: Air conduction, that is, by way of the external auditory meatus, membrana tympani, and ossicles. The route is absolutely essential for the conduction of tones low in the scale, but has but little value in the conduction of tones high in the scale.

There are many qualitative tests, but the ones in ordinary use, and the only ones I use are: 1, Weber test; 2, Schwabach test; 3, Rinne test; 4, Gelle test (pressions centripetes); 5, determining the upper and lower tone limits.

**Weber test**—*c* (128 V.) or *c'* (256 V.) or, according to Bezold, *a'* (460 V.) tuning fork may be used. However, I have used and am using the *A* (106 V.) fork. In conducting the Weber test, we place a vibrating tuning fork any place in the midline of the cranium, asking the patient to inform us on which side it is heard best. Given a lesion in the conducting apparatus, which is limited to one ear or more marked in one ear, the Weber will be lateralized to the poorer ear. If the lesion is located in the apparatus of perception it will be lateralized to the better ear.

**Schwabach test**—*c'* (256 V.) or, according to Bezold, *A* (106 V.) or *a'* (460 V.) tuning fork may be used, I use an *a'* fork. This test is conducted by placing a vibrating tuning fork on the mastoid process and asking the patient to inform you by raising a finger (not speaking) as soon as they discontinue to hear it. If they hear it a shorter time than normal there must be a lesion in the apparatus of perception, and if they

hear it a longer time than normal there must be a lesion in the apparatus of conduction, which prevents the sound waves being conducted out through the stapes, membrana tympani, etc., holding the sound in, so to speak. A Schwabach may be normal and yet have defective hearing; this would be a freak case, however, in which the lesion in the apparatus of conduction was just sufficient to overbalance the lesion in the apparatus of perception.

**Rinné Test**—c (128 V.), c' (256 V.) or, according to Bezold a' (460 V.) tuning fork may be used, I have for some time used an a' fork in this test. The Rinne test is used to compare bone conduction from the mastoid process to air conduction from in front of the external auditory meatus. Normal bone conduction is in proportion to air conduction about as one is to two. Any considerable variation from this ratio is indicative of some lesion in the auditory apparatus. The Rinné test is conducted by placing a vibrating tuning fork on the tip of the mastoid, and asking the patient to inform us as soon as they discontinue to hear it, and then placing the tuning fork in front of the external auditory meatus, and again requesting the patient to inform us as soon as they discontinue to hear it.

For recording the results of this test there are several methods, however, all call Rinné+ (plus) cases in which air conduction is superior to bone conduction; Rinné—(minus) cases in which bone conduction is superior to air conduction. However, a simple Rinné+ or Rinné— is of very little value, as it is necessary to compare relatively bone conduction with air conduction. In this test, for instance, if air conduction is shortened in about the same proportion as bone conduction there must be a lesion in the apparatus of perception; and if bone conduction is normal and air conduction is considerably shortened there must be a lesion in the apparatus of conduction. The ratio of bone and air conduction is the important proposition in the Rinné test. The simple Rinné+ or Rinné— is of very little value. To compare the hearing of the patient with my own hearing, which is, I think, normal, has been my method of comparing bone and air conduction with the normal. The timing of these tests with the watch has never in my hands been satisfactory.

**Galle test (Pressions centripetes)**—This test is useful in only a very small proportion of deaf individuals, and is usually of no value unless the patient is quite deaf. The Galle test is conducted by placing a vibrating tuning fork on the mastoid, then compressing the air in the external auditory meatus by means of a Politzer bag (with the finger in Bing's modification). In the normal individual the tone will be much diminished because of the increased labyrinthine pressure produced by the pressure transmitted to the foot plate of the stapes, if there is ankylosis of the foot plate of the stapes or any place in the conducting apparatus the tone will be unchanged. If there is labyrinthine disease the tone will be diminished by increased pressure, and in some cases dizziness will be produced.

**Upper and Lower Tone Limits.** In my opinion, the determination of the upper and lower tone limits is of great value. By the elevation of the lower tone limits, I mean that instead of the patient hearing as the normal ear does, about 16 double vibrations per second, they hear perhaps 32 or 64 double vibrations per second; while by lowering the upper tone limits I mean that instead of hearing, as the normal ear does, about 48,000 double vibrations per second, the patient hears only tones lower in the scale.

I think that in any case in which there is an elevation of the lower tone limit, there must be a lesion in the apparatus of conduction, and I think that this is absolutely infallible, my reason for thinking this is that practically all tones low in the scale must be conducted to the internal ear by way of the external auditory meatus, the membrana tympani, and the ossicles.

If there is a lowering of the upper tone limits there will be found a lesion in the apparatus of perception; this, I think is always true, but it is not necessary that there be a lowering of the upper tone limit to have a perception apparatus disease.

**Summary.** One test alone is of practically no value in any condition in which it is necessary to make the subjective tests. It is only by carefully studying the results of these tests, and coordinating the findings, that we are able to arrive at any definite conclusion, and then we must consider the objective findings.

One of the important prerequisites to the



proper conduction of these tests is that the patient be sufficiently alert to give intelligent answers. It is impossible to do anything with these tests with a patient who is not thoroughly conversant with the language of the examiner, or with one who is mentally deficient.

#### DISCUSSION.

Dr. J. Holinger, of Chicago: The watch and the acumeter tests have been discarded—not for technical reasons but because they are worthless, because they do not give us anything. The watch and the acumeter have a pitch way above everything that we need in everyday life. A person may be able to hear whispered conversation quite well, and not hear the watch or acumeter, or the opposite. Hearing speech is certainly the most important function of the ear, and therefore we want to know about this function and not about the function that is pretty well outside the ordinary range of the action of the organ.

The doctor speaks of the subjective tests of hearing, meaning Rinné and Weber-Schwabach tests. The originators of these tests showed that they are not subjective tests—that they are objective tests. The objections that a patient can't change them at will must be overruled, because we will catch him at it and therefore can exclude shamming and malingering. The moment we are able to exclude that and can tell from the results of the tests whether or not the patient is telling the truth, we cannot talk about subjective tests any more, but about objective tests. Their results will be the same in the same person and under the same conditions, whether Dr. Mundt makes the tests or whether I do it. An example will illustrate this point. To take the temperature of a patient by means of a thermometer is certainly an objective test. Still there are some patients who are able to influence the thermometer in such a way that it shows a much higher temperature than the patient really has. But we can catch a patient doing that, either by showing that two tests taken in succession do not coincide, or that the temperature does not coincide with the general condition of the patient. Our tuning fork tests are not less objective than the measuring of temperature of a patient.

Dr. Mundt (closing the discussion): I expected Dr. Hollinger to take this view of the matter—that it was an elementary proposition. I said at the start that it was an elementary proposition. Dr. Holinger knows the subjective tests thoroughly. If he objects to that term, I may say that I used the name, subjective tests, because it is the term ordinarily used to designate the tests described.

In regard to these tests, I have not been able to figure out anything statistically, particularly with regard to the Rinné test. You can certainly figure out all sorts and kinds of results, and then if you wanted to figure out more, you could get more.

What every man must do is to learn how to make the tests and then use them and in time their value will be understood.

About the watch and the acumeter, I think I said they were of little value because they tested only one portion of the range of hearing, and I use the watch test very infrequently. I said, however, that the forced whisper test is *the* quantitative test.

I will admit that the subject is elementary, but I think that it is of value to many men, and undoubtedly some men in this section, because everybody does not know as much about it as Dr. Holinger. Another thing is that the *modus operandi* of these tests is neglected in many test books.

### THE BLOOD-CLOT METHOD IN MASTOID OPERATIONS.\*

ALBERT H. ANDREWS, M.D., CHICAGO.

As distinguished from other plans for the dressing and after care of the wound resulting from simple mastoid operations, the blood-clot method consists of immediate closure of the post-auricular incision and allowing the operation cavity to fill with blood in the hope that the clot will become organized and that the whole wound will heal by first intention. The plan was suggested by Blake and has been recommended by Reik, Bryant, Sprague, Williams and many others. The advantages claimed are:

1. When the plan is successful, the period of after treatment is reduced from an average of several weeks to five or six days.
2. The scar and deformity which results when the wound is packed for a long time is avoided.
3. The distress which these patients experience from the drainage and packing methods is entirely eliminated.

In my earlier experience and observation, the usual time in the hospital for patients with mastoid operations was from three to five weeks and the period of treatment before the wound in the simple cases was completely healed was from six weeks to three months. In ideal cases when the blood-clot is used, the wound requires no attention after the sutures are removed except the application of a collodion dressing for protection.

There was a time a few years ago when the larger the cavity left after the healing of a mastoid wound the better pleased the operator seemed

\*Read at the sixty-third annual meeting of the eye, ear, nose and throat section, Illinois State Medical Society, at Peoria, May 21, 1913.

to be. This was probably due to the fact that the operators did not differentiate clearly between the indications for the simple and the tympano-mastoid operations. They were trying to cure chronic conditions by simple operations and had discovered that the deeper and the larger the cavity left the more likely was the patient to be permanently cured. However, as we have come to limit the simple operation to the acute and sub-acute cases no matter how thoroughly the mastoid may have to be exenterated, we have learned that the great deformity of former years is unnecessary.

The pain associated with the after treatment in these earlier cases, especially the first dressing, is something the patient will always remember. Any method which promises to shorten the time of after treatment, avoid the deformity and eliminate the pain of the dressings should be warmly welcomed, and when proven successful should be earnestly advocated.

The following may be mentioned as some of the essentials for the success in the use of this method:

1. The operation must be thorough. All, or as nearly as possible all the diseased bone and the infectious material must be removed from the mastoid.

2. The tympanic cavity proper and the auditory canal must be thoroughly cleansed.

3. No unnecessary trauma should be produced. In making the incision, in checking hemorrhages, in using retractors and in curetting any superficial abscess cavity all bruising of the soft parts should be avoided. The periosteum should be elevated without injury and carefully replaced after the bone is excavated. The diseased tissue having been removed and the bony cavity made smooth and clean, the wound is closed by interrupted sutures or by a continuous subcutaneous suture.

4. No antiseptics, such as bichlorid solutions or carbolic acid should be used. These antiseptics seem to do more harm to the tissue than they do good as germ destroyers.

5. The method should be undertaken when there is evidence of great virulence of the infection, or when there is involvement of the brain or lateral sinus.

The method should not be attempted when

the recuperative powers of the patient seem to be below the normal, as in cases of tuberculosis, diabetes, etc.

While it is essential that the operation should be thoroughly done, it is wrong to suppose that the mastoid can be rendered entirely aseptic. A long series of observations by the most careful investigators has clearly proved that the normal human blood possesses antiseptic properties. Meeknikoff, Nuttall, Fodor, Lubarsch, Vaughan, Novy and many others have published reports of their work along this line. From their several experiences we may safely draw the following conclusions:

1. Normal human blood possesses bactericidal power, varying in degrees in its antagonism to different microorganisms.

2. This property of the blood is greater after it is drawn from the vessels than while circulating intravascularly.

3. The microbe-destroying substance is found in the serum, but is produced by the leucocytes.

4. Certain chemical changes in the blood may be induced either to increase or to diminish its bactericidal power, and this property of the blood naturally diminishes after the clot is forty-eight hours old.

5. The bactericidal properties of fresh blood depend upon its alkalinity; increased alkalinity enhances these properties, but it is diminished with a lessening of the alkalinity, and becomes negative if the blood is rendered acid in reaction.

6. Alcohol and most other antiseptics lessen the bactericidal property of the blood, apparently by precipitation of the albuminoid.

Reik states that experimental and clinical studies have shown that if any clean wound be filled with the patient's own blood and safeguarded from later infection, the blood-clot tends to organize, and new tissue, similar to that enclosing the clot, soon forms to replace the latter. The blood flowing into the wound cavity rapidly clots, and the fibrinous framework of this clot constitutes a scaffolding on which the new tissue is built. Fresh granulations spring from the walls of the cavity and grow out into the clot, forming a new fibrous connective tissue, the nature of which is further altered to accord with the character of the surrounding cavity walls; that is, if



the wound be made in bone, osteoblasts are sent out from the bony walls or from the periosteum to convert the fibrous substance into osseous tissue. The migratory power of these osteoblasts is limited, and they travel only a short way from their starting point, so that, in the case of a large cavity in the bone, the newly formed bone does not extend far from the cavity wall, and the center of the new-formed tissue is fibrous in character. It seems quite probable, however, that in a small cavity, such as we ordinarily make in the mastoid process, the osteoblasts, reaching out in all directions, may extend a sufficient distance to meet in the center and thus to complete the construction of a new bony process. Just how early this osteoblastic activity commences is not known, but such cells have been observed to form within forty-eight hours after the operation, and it is certain that granulation tissue grows more rapidly into a healthy blood-clot than into space. It is plain, then, that Nature may be greatly aided in the reconstruction of destroyed tissue by providing an excellent framework on which to build and leaving her only the task of furnishing vascularity and new tissue cells.

It is not possible to know in any given case whether the blood-clot will become organized or whether it will break down. The question naturally arises as to whether harm will be done the patient if the plan is not successful. It seems to be the unanimous opinion of those who have reported their experience, and it certainly coincides with my experience, that even though the blood-clot breaks down and the wound must later be drained, that these cases recover very much more rapidly than they did under the old plan of packing. In view of the teaching that all suppurating bone wounds must be packed with gauze and the packing continued until the wound has entirely healed out it requires some courage to completely close the mastoid, and there is no doubt that in some cases injury has been caused by the physician's curiosity to see how the case is progressing.

If there should be redness or swelling along the margin of the wound, or if the stitch holes should show evidence of suppuration, of course the cavity must be drained. But even then it is only necessary to open a small place with a probe to provide for drainage. These cases seem to get along

better without washing or peroxide or anything but the simple introduction of a small gauze wick. It is ordinarily best to change this wick every day. There has been some difference of opinion among those who use the method as to the propriety of placing the drain in the wound at the time of the operation. My own plan is to place the drain in the wound whenever the dura or lateral sinus has been exposed. When there has been no exposure of these surfaces I close the wound completely and depend upon later drainage should it become necessary.

While the blood-clot method was originally proposed for the simple mastoid operations, several have used modifications of it in tympano-mastoid operations with great satisfaction. In my own work, I have not used the packing method for several years.

In the tympano-mastoid cases, I use only sufficient gauze in the cavity to hold the flap in position, allowing the rest of the cavity to fill with the clot. Usually this gradually breaks down, but it has seemed to me that it left the surface in far better condition than would have been the case had I filled the cavity with gauze.

While I realize that the blood-clot method is not adapted to all cases, I very strongly suspect that any operation which is not successful under this plan of treatment would also have continued to suppurate had the older method been carried out. In other words, the cause for the failure lies in the technique of the operation rather than in the after treatment.

#### DISCUSSION.

Dr. Norval H. Pierce, of Chicago: The treatment of surgical cavities in bones by blood-clot is not a new idea, by any means. I remember Dr. Fenger, some twenty years ago, used to attempt rapid healing of cavities in bones made in the course of an operation for osteomyelitis by allowing a blood-clot to form, and here he would occasionally succeed and occasionally fail, but the condition in the mastoid process is an entirely different proposition. We can never have an aseptic wound in the mastoid so long as we have communication with the Eustachian tube and middle ear. I have never attempted to use a blood-clot in the mastoid. It went against my surgical feeling to sew up a wound of that size and allow chance to take care of the healing process. Especially is this true in cases where the dura and the sigmoid sinus have been exposed. I always feel safer in packing them.

I wish to take special exception to the technic as it deals with the antrum. If we have done

anything in late times in the advancement of operative procedures on the mastoid, it is the establishment of this fact: that if we take away the walls of the antrum down to the additus and leave nothing but the internal tablet of the skull, we are going to have an enormous overgrowth of the mucosa from the middle ear into the mastoid cavity, because the granulation tissue grows very slowly from the internal tablet of the skull. Whether this occurs in the blood-clot operation or not, I cannot say, but I am inclined to think that it does, because surely the connective tissue elements of the mucosa can spread into this blood-clot as well as osteoblasts can. This is the cause of these recurrent attacks of mastoid abscess that we find in children, the scar breaking down or becoming inflamed or swollen every time the child has a cold. I do not advocate this strenuous scraping away of all the bone around the antrum. I believe it is better to simply drain it from the bottom. In almost every case you will find that the antrum is perforated in the softening process through its floor and never through the external wall, except it be a case of very severe osteomyelitis. The softening process follows the openings into the pneumatic spaces which penetrate the floor of the antrum through what I call the cribriform plate of the antrum. All we have to do is to make a very small opening there and drain it. Leave it alone. Do not try to scrape it out. Attend to whatever else has occurred in the mastoid. Take away all diseased bone, drain it, and you will find that your treatment will not take weeks or months. The majority of cases are cured up in four weeks and a great many of them in very much less time by packing and preserving the antral box.

Dr. Joseph C. Beck, of Chicago: I wish to endorse the blood-clot in operation, from personal experience; however, not in the same way as employed by Dr. Andrews, or as he says in his paper. Failures in the rapid healing of mastoid operations I do not believe are due to the technic, although the preservation of the antrum I would hold as a very good procedure. Leaving the antrum alone is very essential in a simple mastoid operation, whether you use blood-clot or not. So I take issue with that point of cleaning out the antrum, or even the attic. I think it is bad surgery to clean out the antrum, or even so far as the attic, in acute mastoiditis. This is the point: Whether a case heals rapidly or not does not rest on the treatment so much as it does on what change is in that bone, and I have been very much gratified by the examination of bone chips from mastoids, in which we can determine at least two types of osteal changes, and I have classified them in this way: First, the cell route type. That is, we find in the examination of chips from the mastoid that the cells are destroyed by the inflammatory exudate in the cell itself by pressure and liquefaction of the bone. Second,

where there are marked areas of healthy bone, and the cells are not very much filled up, but others, again, infiltrated, in the same way that you find thrombotic bone elsewhere in the body. That is the thrombotic type of mastoiditis.

In examination for bacteria in connection with these cases, we find that the thrombotic type, as mentioned in the cases this morning, in the case of the pneumococcus, of which influenza is an example, or the so-called capsulated organism, which is the micrococcus catarrhalis or streptococcus mucosus, is present in those cases. I found that the bone change is decidedly of the thrombotic type. In those cases, whether you use the blood-clot or packing, you will find it to be a long time before the healing takes place, whereas those which come after measles, we will say, or after an ordinary cold or coryza, even influenza, will show healing to be much more rapid.

When using the blood-clot this is my method in the acute cases. Clean out, as far as the antrum, every cell—however, not burring it—not cleaning out the body of the cavity. Then I allow the cavity to fill up, making a stab wound posteriorly to the incision, and unite the periosteum and skin without making any stitch through the skin, and leave a small rubber tube drain, which goes right up against the antrum, not into it, and a perforated rubber tube along the side, and that tube is left in for twenty-four to forty-eight hours, excepting those cases in which there is great sepsis, high temperature, and exposure of vital structures, and here I leave a wide opening, because drainage is essential.

In the use of the blood-clot I do not use packing at all, even to hold the flaps back. I suture them and allow the cavity to fill up, and put a wire netting hood over that. Leaving the bandage off entirely is one of the best things I have tried out, allowing the air to penetrate the cavity, because keeping this cavity warm makes a splendid incubator, and the bad odor that we find in the first dressing after radical mastoid from necrosed bone is markedly reduced when you do not bandage the ear. This hood is something like the ether cone, and is held on by bands.

Dr. Frank Allport, of Chicago: Never having used the blood-clot dressing for mastoid operations I presume I have but little right to talk on this paper, probably no right whatever to criticise the procedure. I can only say that it seems rather repulsive to my surgical sense to use the blood-clot dressing. I feel about this a good deal as I do about the Heath mastoid operation—it seems to me to be unsurgical in its philosophy. However, both blood-clot dressings and the Heath mastoid operation are advocated by some good surgeons and they both doubtless have some virtue in them, although personally I do not care for them. When a surgeon uses the blood-clot method after mastoid operations, it seems to me



that he is inclosing and sewing up a condition that must necessarily be septic in its nature, and this does not seem right to me.

In defense of my opinion I desire to say, that in meeting surgeons from one part of the country to the other, I find very few of them who are advocates of the blood-clot dressing; most all of them condemn it. Nevertheless I do not wish to condemn any procedure until its fate is definitely settled. We are all searching for knowledge and we are all doing the best we can. Dr. Andrews and Dr. Beck and I do not agree with regard to the blood-clot dressing, but that does not by any means mean that my judgment is right; perhaps theirs is right and mine is wrong. Nevertheless, until I am convinced that I am wrong I shall not use the blood-clot dressing.

Dr. Andrews (closing the discussion): In the first place, I want to confess that I have not given this paper the attention which a paper justifies, which is to be read before this body.

I wish to say, on my own responsibility, that when I found necrosis extending into the antrum, I curetted as far as it seemed to me the necrosis had extended, and that was usually the back and outer wall of the antrum. I have three cases in the hospital now, operated upon within the past week, in which I have used the blood-clot method, or modifications of it. In each one of those the lateral sinus was exposed, and I put in a drain.

I am pleased to see how Dr. Beck's method and mine coincide in the use of the blood-clot. The difference is that he introduces a rubber drainage tube while I introduce a piece of gauze. That is in the acute cases.

It is true that Dr. Fenger attempted the blood-clot method in osteomyelitis, but that was in long bones, and exceedingly difficult to reach the limit of the suppurative inflammatory process, and even then it was sometimes successful. Dr. Fenger was very greatly pleased when he could make a success of the blood-clot method.

I agree with both Dr. Allport and Dr. Pierce that it was repugnant to my surgical sense, but when men like Blake and Reik, and a few others with whom I talked, told me that their cases were getting well in a week when mine were taking from five to six or eight weeks to heal, it appealed to me—not from a scientific standpoint, but from a clinical standpoint. So I tried it, and think the first one failed, and the second was successful. I have used the blood-clot method in some of its modifications ever since. That is, for the past six years. I have had a great many cases where nothing seemed necessary to be done to the patient after six days when an extensive operation had been performed, when the mastoid was full of pus, when there had been a sinus into the bone—all the typical conditions found in acute mastoiditis. They were well in from five to six days. Now, whether that is repugnant to my surgical

sense or not, it harmonizes with my inclinations, and I shall continue to use it. I have not found any harm coming from it. When it has failed, I have simply drained the wound and packed it.

I was pleased to hear what Dr. Beck said about letting air into the operation cavity. I have never used the wire protection, but I think I will. It has been one of my plans to let the air in just as soon as possible, and even let the patient take care of it himself, in order to allow the air to circulate through the cavity after the radical operations.

## WHAT ILLINOIS CAN DO TO PREVENT BLINDNESS.\*

WILLIS O. NANCE, M. D., CHICAGO.

Ophthalmic Surgeon, Illinois Eye and Ear Infirmary; President Chicago Ophthalmological Society; Former Oculist and Aurist Cook County Hospital.

For the honor of presiding over the deliberations of this section I am deeply indebted to you. I desire at this time to express to you my hearty appreciation of the honor you have conferred upon me. For several years many of the ophthalmologists and oto-laryngologists of the State Society have felt that there has been room for a special section in our organization treating of the branches which we have chosen to practice as our life's work. Last year Dr. W. K. Newcomb, president of the society, recommended that a section on eye, ear, nose and throat diseases be temporarily authorized. Out of this temporary organization has come our present permanent section. The unbounded success of our last year's meeting and the most brilliant prospects for the present one, make the permanency of the section positively assured. To the members who attended last year and assisted in making the program so interesting and instructive and to those who by their presence and assistance here this year are adding to the attractiveness of our meeting, I want to express my personal thanks. This section has had a noteworthy and auspicious beginning; may it continue to thrive and may its annual meetings be ever looked forward to with pleasure and profit by every eye, ear, nose and throat specialist in our society.

The subject that I have chosen for my address today is one which I believe you will all agree to be one of much interest and importance, not only to the members of the profession but to every

\*Chairman's address delivered before the section on eye, ear, nose and throat, Illinois State Medical Society, at Peoria, May 22, 1913.

citizen of our commonwealth. The subject might, perhaps, have been better announced as "What Can Be Done in Illinois to Prevent Blindness," than the one which appears on the program.

It is not necessary for me to quote statistics showing the number of blind persons in Illinois or in our country, or why they became blind, or the cost to the state for their maintenance, etc. Neither is it necessary to remind a body of ophthalmologists that a considerable proportion of the blind are needlessly so. Every oculist and most general medical practitioners know that 40 per cent of the blindness of the world is preventable; in other words, that of every ten persons who are sightless four of them need not have been so. The question that presents itself in this connection is, has the medical profession been awake to the extreme importance of the subject to the extent that it should have been and has the public been sufficiently impressed with the gravity of the situation and properly informed as to the possibilities of what cooperation might accomplish towards materially improving these figures? The medical profession in Illinois has done much in spreading the truth concerning preventable blindness. The public health officials in Illinois are doing their best to stamp out ophthalmia neonatorum, handicapped, however, as they are, by limited appropriations and a state law which prevents midwives from employing a prophylactic. Classical papers on the subject of preventable blindness have been contributed to this society the past two years by Dr. Thomas Woodruff of Chicago and at least one large public gathering has been held in Chicago in an endeavor to interest the public and the profession in reducing the number of cases of blindness. Several large manufacturing concerns and railroad companies have taken radical steps by the better protection of their employes against industrial accidents of recent years. But withal, the profession as a whole and the public generally in Illinois are not giving this subject the care and attention that the importance of it demands. To what better purpose can we as a body of specialists devote a portion of our time and efforts than to interesting the public in the prevention of the greatest of human afflictions, the loss of eyesight? For it is to us, men conversant with the diseases and

accidents incident to the organ of vision who must lead the way and interest our fellowmen in a crusade which has for its object the human betterment of our race.

As already suggested, we of Illinois have not kept the pace that has been set for us by the people of some of the other states of the Union. I have only to mention the effective work that has been done along this line in New York, Massachusetts, Maryland, Ohio and some other states with which you are all doubtless familiar. In our neighboring state of Missouri the profession is interesting the public and already results are being made manifest. Who has not heard of the excellent organization and educational propaganda of the Russell Sage Foundation, with headquarters in New York City and of the magnificent work that has been accomplished under the leadership of our indefatigable confrère, F. Park Lewis of Buffalo? The opportunity to assist in the cause is open to us in Illinois and my object in addressing you at this time is to urge activity on your part in this movement. The question arises, how can we best obtain results and what can each individual member do to assist the cause? We all know that at least 10 per cent of all blindness is due to ophthalmia neonatorum and that 25 per cent of all preventable blindness is attributed to this disease. There is no use arguing as to the efficacy of the Credé method of prophylaxis. Everyone admits its value. No physician can consistently object to its use. If some physicians do not employ it because it is not convenient for them to do so, the state should make it easy for them by furnishing it gratuitously in a convenient form as is now being done in several states. Incidentally, President Webster of our own state board of health has asked for an appropriation of \$3,000 per annum for the purpose of supplying these necessary drops.

Dr. Webster, at the January, 1913, meeting of the board, recommended and is now attempting to secure the enactment of an amendment to Section 7 of the Medical Practice Act which, if enacted, will permit midwives to use the prophylactic drops, something which they are now specifically prohibited from doing, as Section 3 provides that they "shall not use any drug or remedy."



This proposed amendment does not, in my judgment, weaken the Medical Practice Act; your favorable influence would be of very material assistance in having this adopted and would be the means of ultimately saving hundreds of eyes.

Ophthalmia neonatorum should be made a reportable disease as is scarlet fever, diphtheria, tuberculosis and other contagious diseases. In the larger cities, at least, every case should be investigated by the public health officials to determine whether the infant is properly cared for, and where midwives are in attendance to see that the baby is placed in a hospital. We all know that if cases are seen early and intelligent and active treatment is immediately instituted and continued that it is rare that an eye is lost. What an appalling thing it is for us to meet, as is not at all infrequent, with a little patient whose corneae are ulcerated and perforated, forever blind, and to consider what could have been done by intelligent treatment but a few days or weeks sooner. Early reporting of these cases to the health authorities will prevent many such catastrophes. At the request and earnest solicitation of the speaker, the city council of Chicago adopted an ordinance requiring the reporting of all cases of ophthalmia neonatorum by physicians, midwives or other attendants. While this ordinance has not as yet been enforced to the extent that it should have been, I have the assurance of the cooperation of Health Commissioner Young in bringing about its better enforcement. In passing, it may be of interest to mention that in Boston since a similar ordinance has been enforced and the "follow up" system instituted, not a single known case of the disease has resulted in blindness.

Another measure that might well be adopted in Illinois would be one which would require the early and prompt reporting of all births, including in the report information as to whether or not prophylactic drops have been employed, and "if not, why." Such regulations have been enforced in certain communities and have assisted in encouraging the use of the Credé method, as well as better informing the public officials to be on the lookout for cases of "sore eyes" that might be considered "suspicious."

But the adoption and enforcement of health

laws will not alone effectually care for the situation. It requires more than that. As stated in the report of the committee on prevention of blindness of the American Medical Association for 1912, "it is society as a whole, in the last analysis, which must utilize the knowledge at its disposal and furnish the means to eliminate the disease." It means that the public itself must be awakened to the cause and nature of "baby's sore eyes," its dreadful sequelae when neglected, the ease with which it can be prevented and the urgent and positive necessity for its early recognition and intelligent treatment. I shall allude again to the importance of an educational campaign after I have briefly referred to some of the other causes of preventable blindness.

Trachoma is responsible for about one-tenth of all blindness in Illinois. This percentage could undoubtedly be cut down by a better understanding as to the contagiousness of the disease and the adoption of a better hygienic regimen on the part of the people at large. Patients and parents of children suffering from trachoma must be better advised of the danger of contagion and the easy conveyance of the disease by towels, handkerchiefs, bedding and the like. The "common" or roller towel must be banished from public places by legislative enactment as has already been done in the city of Chicago. This ordinance, as most of you know, was passed by the city council at the instance of your chairman. Its enforcement and the publicity given to its consideration has doubtless been the cause of preventing many cases of serious ocular infection and consequent blindness.

At least five per cent of blindness results from ocular injuries. The greater number of these injuries are preventable, many of them being due to carelessness and ignorance. How frequently we see children blind or partly so as a result of an injury of the eye by scissors, knife or other similar instrument placed in their hands by thoughtless parents or friends. The air rifle, for which there is no earthly excuse for existence, annually claims a harvest of blind eyes. Even the water-core golf-ball has contributed its share to blindness as a result of its dissection by the inquisitive modern youth. Most of these injuries, as also others caused by supposedly harmless toys, could have been prevented had the guardians of

these victims appreciated the dangers of such devices. A campaign of education is needed in this direction.

Industrial accidents are not occurring with the same degree of frequency as they have in years gone by. Manufacturing and railroad corporations in Illinois are keeping an even pace or better, I believe, with those of other states in the protection of their employes against eye injuries. In many of the shops and factories, however, and let it be said, frequently against positive orders to the contrary, the custom of removing foreign bodies from the eye by fellow workmen is still persisted in. Every eye surgeon knows the positive iniquity of such procedure and has seen dire results following the custom. Shop foremen and workmen must be better advised as to the dangers of such practice and those in authority must see to it that the custom be abolished.

Wood alcohol blindness has become of sufficiently frequent occurrence to demand better regulation of the use of the drug in industrial pursuits and in its sale to the public. Both employers of labor and the public generally must be warned of the poisonous nature of this preparation and its influence in the production of blindness. There is opportunity in Illinois for legislative enactment restricting its use commercially and requiring proper and comprehensive labeling.

There is opportunity for improvement in the school system of our state in so far as it relates to the illumination of school rooms, the size and position of desks and seats, the size and character of the print of books, the kind of paper used, etc. When it becomes generally known by school authorities and the public that the beginning of much serious eye trouble, sometimes leading to blindness, has its inception in the school room, more attention will be paid to ocular hygiene as it particularly relates to this aspect of the subject.

Our state must be given credit for pioneer work in the prevention of blindness. The establishment of the Illinois Charitable Eye and Ear Infirmary in Chicago under state control nearly a half century ago has been the means of saving thousands of our citizens from blindness.

What is needed in Illinois at the present time

is a thorough and persistent campaign of education along the lines suggested in this address. This campaign must be carried on among the people themselves. Papers on the subject read before medical societies and published in medical journals have been of some value but the time has come to inform the public directly. The people are entitled to know the facts and they want to know them. Never in the history of medicine has the public taken such an interest in sanitation and hygiene as at present. The campaign of education which has been waged the past few years against tuberculosis has resulted in the saving of thousands of lives. A campaign conducted on similar lines in Illinois will save hundreds of eyes. We medical men must lead the fight. The aid of the clergy, social workers, trade unions and other organizations should be solicited and the lay press must be urged to assist. Health officials who are seeking legislation and law enforcement to aid the cause should have our assistance and co-operation. Suitable literature, in certain localities to be printed in foreign languages, should be circulated. Public lectures, preferably by men practicing our specialty, should be given in every community of the state. The general medical profession of the state must cooperate. With such a campaign instituted and industriously carried on, much blindness can be prevented in Illinois and much less suffering will result.

#### DISCUSSION.

Dr. Frank Allport, of Chicago: As many of you know, I have been interested for many years in the annual and systematic examination of school children's eyes, ears, noses and throats by school teachers. I am sorry that Dr. Nance did not lay more emphasis upon this subject because I believe that these examinations, if they were universally and systematically performed would very heavily decrease the amount of blindness in this country. Such examinations also enable a child to do better work in school and to more easily acquire an education, and they also have a distinct value in the decreasing of the percentage of blindness.

There are many conditions, of course, which although not producing blindness do produce exceedingly poor vision. Such conditions are, for instance, very high degree of refractive errors, corneal complications, etc. Through the systematic examination of all school children such conditions are brought to light, relieved and perhaps cured, and the child is thus saved from the curse of



the lack of an education which frequently leads them into paths of idleness, vice and crime. I will not say that these examinations must be made by school teachers, although personally I believe this is the best way to do it. If the Board of Education or Boards of Health feel financially able to undertake this work, well and good, let them do it. All I ask for is, that the work be done, but I am earnestly of the belief that the method which I have pointed out is the best and most practical method that has been proposed. Teachers are perfectly competent to make these tests, and while they cannot and should not endeavor to make a diagnosis, they can discover by the questions which I have made out the existence of at least 95 per cent. of serious eye, ear, nose and throat troubles. After such conditions have been detected, the teacher sends a card of warning to the parent, urging him to consult the family physician or some specialist of his own choosing. In case these warnings are not heeded the school teacher or the school nurse should follow them up and endeavor to influence the parent to take the child to proper medical counsel. The expense is practically nothing; for instance, all the school children in Chicago could be examined in one day by their room teachers at a cost not to exceed \$500. Notwithstanding this fact, there seems to be a conflict on between the authorities in Chicago. The Superintendent of Schools feels that the examination should be done by the Board of Health and that she is not warranted to place, what she chooses to call "this extra labor" upon her teachers. This objection seems ridiculous to me, because by ordering the teachers to make these tests, which are easily made and would only take a few hours, the work of all the teachers would be materially lightened by transforming an apparently stupid child into a bright and teachable child by the correction of certain physical defects. The Board of Health on the contrary say that they have no money to make these tests with and that defects of this kind should be taken care of by the Board of Education, and so as a consequence of these conflicting opinions, the children are not properly examined.

Dr. D. D. Barr, of Taylorville: About four or five years ago I examined something like two thousand school-children, mostly in my own county, and I found some very interesting facts in connection therewith. In making these tests I used the ordinary charts and examined the children very hastily, owing to the fact that I was taking the time from my own office, free of charge to anybody. In those tests those children who had better sight than two-thirds normal vision I passed as good, and those with two-thirds or less, I just hurriedly classed as bad eyes, and I found fully thirty per cent. of the two thousand children had bad eyes—that is, they complained of headache, and the various things that you all know.

But the most interesting thing found was in two schools where the efficiency of the school work was brought out very clearly. One school had what they called a hold-over class, and that hold-over room was composed of children who seemed to lag behind and could not pass their examinations. In that room I found three out of four, or seventy-five per cent. of them, with poor vision, while in the fifth and sixth grades, where they had passed easily, I found only one in about six or seven that would be classed as bad eyes. That would seem to me to show very clearly that bad eyes held those children back.

The next thing that impresses me is the difficulty of getting this matter before the people. In the cities, especially cities like Peoria and Chicago, you have your school inspection by physicians and dentists, which is entirely absent in the counties through the State, where there are cities of lesser size. I do not know whether this is true generally over the State, but it is so in Christian County. You know, most of us are a little averse to begging to do a free job. I have offered my services to the superintendent of schools of the county on two or three different occasions to speak before the teachers, telling them of the importance of eye examinations, but while the superintendent is a very nice man, a friend of mine, still he does not realize that getting such a matter as that before the people, the public, and especially the teachers, is of more value than some of the points on history, or something else of that kind, and as a result he told me that he did not see where he could have time to put in a talk of that kind. So I do not know what would be the best way to get this before the counties throughout the State.

Dr. A. E. Prince, of Springfield: I am in sympathy with the paper, and also with what Dr. Allport said, and it is just a question of how to get to it. It seems to me entirely impractical for the community, or the Board of Education, or the civil authorities, to pay for the making of these examinations. We have in Springfield a practical solution of this problem which is working out very well, and I believe it is the proper solution. We have a school nurse, who goes from school to school every day of the school year, making discoveries of all the children who have ocular trouble. She is not attempting to follow those with errors of refraction, or diseased tonsils, but simply trying to find children who need attention. She reports these cases to the parents, with the request that they report them to the family physician, and that the family physician select the proper medical authority to take the matter up, and so ultimately a great deal of good is being done. The cases for refraction are referred to some oculist for refraction, and the cases of diseases of the nose and throat are referred as well to a spe-

cialist, and so a large number of cases are being helped.

Another great thing which has taken place is the education of the children. As Dr. Nance says, educate the public. The more these cases are referred to the mothers and mothers' clubs, the more the public is being educated. This plan is successful in Springfield, and I would suggest that it might be tried elsewhere with equal success. It seems a good way of reaching the results of which Dr. Nance spoke.

Dr. C. H. Brobst, of Peoria: Our principal drawback in Peoria is that unfortunately the attorney for the school board is a Christian Scientist. We got along fairly well for two years; we examined the children and undoubtedly did a great deal of good. But I am sorry to say that this city is infected with a Christian Science bug, and no doubt one-third, possibly more, of our teachers in the public schools are Christian Scientists. I began the study of this question, and have found in a number of schools that we were worked against by some of the teachers. The children were prejudiced against the doctor who came to the school, and told not to have their eyes examined. One little girl began to cry and said: "My teacher told me not to have my eyes examined." I asked who the teacher was. She gave me the name, and I readily understood. The matter was put up to the attorney for the School Board to decide whether it was legal to apply or to set aside a certain amount of money to pay a certain number of physicians to examine these children, and he decided that it was illegal. And as political affairs go nowadays, you can understand the difficulties we meet with. Back of all this opposition is the Christian Science movement. What can we do? I am still ready to give my services for nothing, as I have done. Our school children have not been examined for the last year, because the medical society took the stand that if the School Board had plenty of means to spend in many different places, as we know they have, then they could pay a reasonable fee to the physicians for school inspection. I do not agree with this idea. I still believe that we should go ahead and do it without remuneration. The children cannot help it. The Christian Scientists cannot help it because from prejudice and lack of wisdom they don't realize of what benefits they are depriving the school children.

We cannot blame the majority of men on the School Board. It is true, it is a political affair, and many do not understand. How can we get it before the public so that they will understand that the prejudice that exists here, from the Christian Science standpoint, is something appalling?

## ABOUT THE TREATMENT OF NERVE DEAFNESS.\*

J. HOLINGER, M. D., CHICAGO, ILLINOIS.

The treatment of hard-hearing must be based on an accurate diagnosis of the seat and nature of the trouble, and this in turn on a clear conception of the pathology. By following this principle, the results will be much more satisfactory than by classing all cases together and handling them according to the same routine. There are several difficulties which we have to combat. The most important is that we do not see our cases early. The patient is the last person to notice that he is losing his hearing. He thinks other people are talking low and indistinctly. The consequence is, that as yet we see comparatively few *early* cases of hard-hearing. Usually the tests show that whisper at the first examination is heard only at a distance of from one to two metres, while it ought to be heard at fifteen to twenty meters. We must, therefore, try to get the patients to come when they *begin* to notice their infirmity, and not delay for years. This can only be accomplished by systematic efforts to regain the confidence of the public. Unfortunately, this has been lost to a great extent through insincerity and humbug, due to lack of knowledge of pathology and diagnosis. The insincerity even today on the part of men of international reputation might be called by a stronger name.

Still, our knowledge of pathology as well as of diagnosis is at least equally well developed as that of other branches of medicine. Professor Siebenmann, in Basel, has hundreds of specimens where he made the diagnosis in the living and verified it in post-mortems by cutting the labyrinth and middle ear in series. In none of them did he find a disease of the middle ear where he had diagnosed an affection of the labyrinth, or vice-versa. Combinations are frequent. I know the objections that Manasse and Panse have brought forth. Several of them I could invalidate off-hand, but it may be sufficient to draw your attention to the fact that Panse and Manasse do not even make an attempt to find any good whatsoever. Panse goes a step further than Manasse and tries to pass final judgment in all these ad-

\*Read at the sixty-third annual meeting of the eye, ear, nose, and throat section, Illinois State Medical Society, at Peoria, May 21, 1913.



vances of modern otology. But he cannot help showing his prejudice even in the poor and miserable figures in this chapter of his book. Such a standpoint cannot but render a book worthless.

Without entering any further into these controversies, I wish to show how easily cases of so-called nerve deafness are diagnosed. Heredity can rarely be shown. The patients are usually older than twenty or twenty-five. The onset of the affection is slow and imperceptible. Frequently some damaging influence can be discovered in the history. Sometimes old age, long-continued abuse of tobacco or alcohol, exposure to great noises, long and persistent use of quinine or salicylates, overwork, or some general infectious disease has preceded the first manifestations of the trouble, like typhoid fever, syphilis, influenza, smallpox, etc. In children the infectious diseases of childhood are often mentioned: cerebrospinal meningitis, scarlet fever, measles, diphtheria, mumps and whooping cough. The drum membrane is usually normal, the Eustachian tube patulous. The diagnosis is mainly supported by the functional tests, especially the tuning-fork tests. Hearing by bone conduction is not as good as in the normal, while the relation of hearing by bone conduction to hearing by air conduction in the same ear has remained the same as in the normal. Therefore, Weber-Schwabach's test with an *a'* fork is negative, while Rinne's test is normal, as is also the hearing for the lowest sounds. In hard hearing due to diseases of the middle ear, hearing by bone conduction is often better than in the normal, but its relation to hearing by air conduction is changed in favor of bone conduction, and hearing of the lowest sounds is lost. Rinne's test in diseases of the middle ear is, therefore, shorter than normal or negative, and Weber-Schwabach is normal or longer than normal.

When the diagnosis of nerve deafness is established, the treatment will follow the lines that are prescribed in the treatment of other diseases where inefficiency of nerve action plays a part. The local and general nutrition have to be stimulated. For the latter purpose strychnia in different forms and combined with other stimulants will be of service. For local stimulation a course of ten to twelve catheterizations of the Eustachian tube will be found efficient. In case

of over-irritation, rest at a quiet place is the logical remedy. In toxic neuritis of the acoustic nerve as, for example, in smokers and drinkers, a pilocarpin sweat cure will often be found beneficial. When we recognize that after almost any serious disease, especially exhausting infectious diseases, like typhoid fever, etc., the body has lost a great deal of its power of resistance, we will realize that a few weeks of rest in a quiet place is not only a desideratum, but an absolute necessity, then we will prevent a number of cases of hard hearing.

The results of our treatments cannot be good under *all* circumstances. Nobody can expect to make a man hear speech who did not hear even the loudest noises for many years, because in such cases we must assume that the nerve fibres of the cochlear nerve, are degenerated. But a *beginning neuritis* may be stopped. An organ suffering from over-irritation may recover if the cause of the over-irritation be removed.

Short abstracts of two histories will be given.

Case 1. A colleague, aged thirty-five years, hard worker, hard smoker, came with hearing of two meters for whisper. Functional tests characteristic for nerve-deafness. A course of treatments was outlined for him. A year later he heard whisper at ten meters.

Scientific otology had to overcome more difficulties than any other branch of medicine. The request of otologists to see the patients suffering from hard hearing *early* is one which will help to improve the final results.

Case 2. Miss C., May, 1909, aged 52 years, suffered from increasing difficulty of hearing for the last six months. Hearing distance is 1.5 meters for whisper; no improvement after the first catheterization. The tuning-fork tests indicate nerve-deafness. After two weeks' treatment, consisting of general hygienic measures, rest, combined with internal medication of strychnin, 0.002 three times a day, and catheterizations of the Eustachian tubes, her hearing distance improved to five meters. Since then she has returned twice with the same complaint. The same treatments were applied each time, with similar results.

#### DISCUSSION.

Dr. H. Kahn, of Chicago: I have heard Dr. Holinger's paper with interest, and take the liberty of adding a few words.

Most of these patients who are getting progressively deaf in a beginning nerve deafness show one decided symptom, and that is a lack of attention and comprehension. I believe it is everyone's experience that these people actually hear better than they realize. A point, therefore, which I wish

to emphasize is that very gratifying results are obtained by encouraging lip reading early, if the condition is one of progressive deafness. They apparently get the speech much more easily as they gradually lose their hearing, if they learn to read the lips while they still can hear. I believe the use of mechanical devices should, therefore, be discouraged as long as possible.

Dr. P. J. H. Farrell, of Chicago: I think Dr. Holinger has well outlined the treatment. There is one point that appeals to me very strongly in treating these cases of progressive deafness, and that is a pronounced optimism on the part of the physician. We all know that in cases of deafness, from whatever cause, the patients readily become pessimistic, and that, particularly in nerve deafness, is a very great handicap.

Brutal positiveness, often regarded as an evidence of honesty, is more often a sign of sheer selfish inconsiderateness on the part of the surgeon, who will not take the time nor trouble to mitigate the blow he is inflicting nor give the patient the explanations necessary to qualify his downright assertions. Sometimes such positiveness is simply a mark of ignorance, the expression of a hastily formed and erroneous opinion.

If we maintain a cheerful and determined optimism we not only help the patient to bear his troubles, and by giving him hope prevent much suffering and mischief, but we are ourselves stimulated to make greater exertions in his behalf and are prevented from degenerating to the dead level of routine treatment or to the depths of an actual therapeutic nihilism.

Referring to the remarks of the last speaker, in regard to lip reading, I was very glad to hear that point discussed. I have tried to prevent them and instructed patients to avoid lip reading while they have any serviceable hearing. I have found that they readily began to depend upon the lip reading and did not exercise that acuteness of hearing that they possess and that is very necessary. The very pronounced pessimism that we frequently find in cases of progressive deafness is a condition that we can greatly benefit by getting our patients into a hopeful frame of mind and to make an effort to retain their hearing. This benefit they do not get when they become irritable and despondent.

Dr. Joseph C. Beck, of Chicago: Perhaps some of you do not appreciate Dr. Holinger's feeling in the matter of the reference he made to the work of Manasse and Panse, because this work has recently come out in Germany and has not yet been translated. It attacks the work that Siebenmann and his followers, Denker and others, have laid down and have religiously followed and advised, and have not been at all disappointed, except that the results have been practically useless in the treatment in my hand, at least, but the pathology and diagnosis seem to have been some-

what overthrown by the reports of these cases, and I agree with Dr. Holinger that they do not bear the stamp of great work, such as Manasse and Panse are both able to do. We have always looked to these great men for great things.

Another point that Dr. Holinger has not touched is this: He brought out Professor Siebenmann's work, but Professor Siebenmann now does not back up his own argument in the way of answering. He ought to come out and strongly answer these men. Why are they wrong? We are looking forward to that discussion. Those are not personal matters. They are scientific matters, and are of interest in the pathology and treatment of nerve deafness, particularly otosclerosis. I am sure Dr. Holinger will bear me out in this. It is a broad question in the treatment of otosclerosis and nerve deafness.

In regard to the treatment, I have been experimenting for two years now with the use of adrenalin injections in doses that you would hesitate giving, because Hanson and others have told us the danger of the use of adrenalin, and that it causes arteriosclerosis. I have used this remedy with excellent symptomatic results; that is to say, so far as the hearing is concerned, there being no distinct improvement, but the patient is able to hear without the use of instruments and does not appear to progress in deafness.

I will agree with Dr. Farrell on the point of not using lip reading altogether, because these patients ignore everything else and depend wholly on the lip reading, and you want these people to stimulate the little nerve cells that are still present, and thus keep up hearing. There is the same objection to instruments. But there is this to be said in favor of instruments that the nerve energy that these patients expend in trying to hear by the use of the telephone apparatus, etc., is less, and thus helps them. I would like to hear Dr. Holinger's opinion on that. I am very much interested in this subject.

Dr. W. L. Ballenger, of Chicago: I am very glad that Dr. Holinger has brought out some points that he has, especially with reference to rest being of benefit in these cases, that is, rest to the whole body as well as to the ears.

I remember some years ago Dr. Stucky emphasized this point in a paper in which he said that he placed his patients in a hospital for six weeks at a time, and noticed a marked improvement in hearing from physical rest as well as rest to the ears.

Dr. Holinger (closing the discussion): I thank the gentlemen for their kind discussion.

In reply to Dr. Kahn, I would say that inattention of people who are hard of hearing is a consequence of not being able to follow the conversation. Strychnin will increase their nerve reaction to the influences around them. The word



"listlessness," which comes from "listen," is used for this affection, showing that it is a quite generally observed condition.

As to the mechanical appliances for hearing and the lip reading, I do not mention them to the patient as long as he can hear whispers at four metres or more. If the patient himself asks about them, I do not discourage either. In otosclerosis, where we know that an increase of hard hearing is possible, I tell the patients directly that there is a possibility that they may lose some more ground, and therefore they should start lip reading at once. Thus, in otosclerosis, I rather encourage lip reading early; in nerve deafness I wait until the patient himself inquires.

Dr. Ballenger spoke about the beneficial effect of rest. There is no question that rest has a great influence in cases of hard hearing, and not only in cases of nerve deafness, but also in many cases of middle-ear deafness. In otosclerosis we know that overwork and overexertion are very bad. The cases of loss of hearing in childhood are explained in this way. Still, these cases are incurable from the beginning, and it is not those that we are discussing today, but the cases of nerve deafness where we will have better results if we get a chance to see them earlier.

## RELATION OF NASAL TROUBLES TO CATARRHAL CONDITIONS OF THE EAR\*

G. W. GEIGER, M. D., KANKAKEE, ILL.

It is not the object of the writer of this paper, to enter into a long dissertation on this subject, for so much has already been written by others that it is only necessary to quote them to bring to our notice the salient points of the topic.

Neither is it convenient to consider the nose alone, for the nasopharynx being so intimately associated with both middle ear and nose must be considered with them.

Love<sup>1</sup> says, "clinically the middle ear should be regarded as an extension of, or branch from, the nasopharynx and most affections of the former are due to extension from the latter."

How important then is the Eustachian tube, the natural gateway of communication between the two, for equality of air pressure on both sides of the membrana tympani is positively essential

to normal hearing and to normal circulation within the middle ear.

Lack of ventilation and of normal circulation are causes of middle ear catarrhs. Our next thought then is, what things operate to account for the above mentioned conditions and I can do no better than to adopt Makuen's<sup>2</sup> classification. He says, "The intranasal conditions giving rise to middle ear complications are as follows:

1. Those causing disturbances of nasal respiration.
2. Those attended by suppurative intranasal and sinus inflammation, and
3. Any condition which by pressure or otherwise may give rise to reflex disturbances." The first class includes hypertrophic and atrophic rhinitis, intranasal growths, septal deflections and spurs, and nasopharyngeal hypertrophies and tumors, and the damage to the ear is chiefly mechanical in its origin. The second class includes all catarrhal conditions of the nasal and accessory cavities, and the damage to the ear is usually by continuity of structure. The third class includes those conditions which give rise to irritation of the terminal nerves in the nasal and accessory cavities, and set up ear complications by so-called reflex action."

You are all familiar with the changes that take place in a catarrhal otitis media and with the tendency toward organization of tissue in the chronic cases, so we need not dwell upon those points.

Murray<sup>3</sup> considers the etiologic relationship between the diseases of the nose and throat and diseases of the middle ear and emphasizes the following points:

1. A very large proportion of people are subject to some aural defect; disease of the middle ear furnishes from 65 to 70 per cent of all aural diseases, and of all cases of deafness the middle ear is responsible for about 85 per cent.
2. Of all sources of involvement of the middle ear, about 90 per cent are caused by involvement through the Eustachian tube.
3. Adenoids in children are complicated by ear diseases in at least 30 per cent of the cases. This percentage will be much higher if careful

\*Read at the sixty-third annual meeting of the eye, ear, nose and throat section, Illinois State Medical Society, at Peoria, May 21, 1913.

<sup>1</sup>Love, J. K. The Naso-Pharynx and the Ear. The Medical Annual, London, 1902, XX, 254.

<sup>2</sup>Makuen, G. H. Intranasal Conditions Bearing on the Etiology of Ear Diseases. Jour. A. M. A., 1906, XLVIII, 1132.

<sup>3</sup>Murray, Wm. R. How Far May Conditions in the Nose and Throat Be Responsible for Middle Ear Diseases. Jour. A. M. A., 1911, LVII, 533, 549.

objective aural examinations are made and any change in the appearance of the drum membrane noted.

4. The nasopharynx is directly responsible for a very great majority of all diseases of the middle ear, and any intranasal or sinus disease that is capable of causing a nasopharyngitis, or is attended by a purulent discharge, or so interferes with drainage of the nasal passages that accumulated secretions may gain entrance to the Eustachian tube, is a constant menace to the middle ear.

5. Many cases of chronic catarrhal otitis media that apparently begin in adult life, are the result of some diseased condition of the nasopharynx existing during childhood.

6. The presence of hypertrophy of the pharyngeal tonsil increases greatly the liability of serious middle ear complications during an attack of the acute exanthematous diseases.

7. Any conditions that interfere with the normal physiologic action of the Eustachian tube will predispose to middle ear disease, and the means of obtaining and maintaining such normal function of the tubes is through a normal nasopharynx and an important factor in maintaining a normal nasopharynx is a normal nose and fauces.

Jones<sup>4</sup> made a brief synopsis of three hundred consecutive aural cases above the age of fifteen years, in whom the nose was carefully examined. "Of this number, one hundred and forty-five were males, and one hundred and fifty-five females. The right ear was affected in thirty-seven cases, the left in sixty-six. One hundred and ninety-seven had both ears affected. One hundred and twenty-two suffered from tinnitus. In forty-six the tinnitus occurred on one ear, in seventy-six in both ears. In sixty-nine there was enlargement of the inferior and middle turbinates, the great proportion of these hypertrophic conditions occurring in the inferior turbinate body. There were eighteen cases of encroachment of the septum on the turbinate bodies, arising from extreme deviation, spurs and other deformities. In several of the cases in which turbinate hypertrophy was present there were lesser degrees of septal displacement or irregularity. In five cases, post-nasal adenoids were discov-

ered. On the sixty-nine cases of turbinate hypertrophy, the ear corresponding to the obstructed nasal passage was affected in forty-eight."

The role played by adenoids in middle ear catarrh is so generally recognized by all that it is not necessary to touch upon them at all, but it seems to me that one of the most important of all causes, the so-called nasal catarrhs, most of which are in reality no more or less than accessory nasal sinus disease, is the one most generally overlooked and in my estimation oftenest responsible for the middle ear catarrhs occurring in adult life.

The swelling of the mucous membrane resulting from deficient drainage and the irritation of putrid discharges, too often results in tubal and middle ear catarrh which, if too long unrecognized, results in pathologic changes ending in deafness.

Collier<sup>5</sup> insists "that in chronic catarrh of the middle ear a minute and careful study of the affections of the nose is a necessary preliminary to a proper understanding of this and other diseases of the ear and shows that in the Eustachian stenosis due remotely to nasal catarrh or obstruction, the condition of the nose must be rectified before the affection can be properly dealt with."

Catarrhal conditions of all kinds being more frequent in youth, it behooves us, then, to make careful observations as to the condition of the nose and nasopharynx in such cases as present themselves, and also to impress upon our patients the necessity for and the danger in delaying the treatment of such nasal conditions as have been before enumerated.

Neglect and indifference characterize the attitude of most of our patients with nasal troubles unless the obstruction is so pronounced or the discharges so annoying as to demand their relief.

As to the ears, the majority of the cases which consult us for treatment are either the acute cases where the loss of hearing has been sudden or earache so severe as to require relief, or it is the chronic case that has been neglected until the head noises are unbearable, or the deafness so marked as to cause the patient inconvenience in conversation.

Too often pathologic changes have then oc-

<sup>4</sup>Jones, H. M. Turbinate Hypertrophy in Its Relation to Deafness. Med. Press and Circ., 1893, CXI, 353-86.

<sup>5</sup>Collier, Mayo. Nasal Obstruction and Ear Affections. Lancet, 1893, II, 991.



curred which preclude benefit from treatment of either the nose or ear, or both.

#### DISCUSSION.

Dr. Norval H. Pierce, of Chicago: It is my opinion that the vast majority of cases of deafness due to changes in the sound conduction apparatus have their beginning in disease of the nose and naso-pharynx in childhood. As to how great a bearing the ordinary deflections of the septum, hypertrophy of the turbinated body, influence the middle ear and cause what is termed a catarrhal otitis media in adult life must be carefully and explicitly considered.

I recall a hunting trip up in New Brunswick. We went into the hills for moose, and I had as a guide a man, probably fifty years old, and he could hear things that I could not hear, and I have very good hearing. He had one of the most obstructive deflections of his septum that I have ever seen. But he was hard as a nut. He was healthy. He resisted infection. Dwellers in cities have lost this resistance to a degree. It is that general lack of resistance to inflammatory processes that causes the majority of inflammations of the ear—that results in chronic deafness. We all have more or less obstruction of the nose, but the majority of us have no otitis media. I think it is an important point that we should recognize this fact, because it will save an innumerable army of humanity from the inconveniences and dangers incident to trimming up turbinated bodies and deviation of the septum, and what not.

Chronic otitis media develops gradually, and, once developed, the probabilities are that the resultant deafness is permanent. The deafness that is caused by this chronic inflammatory swelling of the mucosa of the tube and cava depends on permanent changes in the sound conducting apparatus, such as atrophy of the ligamentous connections of the ossicles, adhesions in the attic, adhesions between the malleus and incus, adhesions between the joints, partial dislocations of the malleus, of the incus, more or less ankylosis of the stapes in the oval window, atrophy of and adhesion between the tympanic membrane and promontory—all these changes occur in the course of what we call a chronic otitis media at some particular time, and unless they are remedied at that particular time they are more or less permanent, and the deafness that they produce is more or less progressive. All this is aside from what we know as otosclerosis or spongification of the labyrinth capsule—that is—a pathologic entity, a condition we know to be absolutely independent of any condition that we may have in the post-nasal space or in the nose. Otosclerosis is something that is not influenced, no matter what we do, by local or internal treatment. But that chronic otitis media is always the result of some little deviation, or greater deviation of the septum, or hypertrophy of the turbinated bodies, I think is erroneous, and

I think that we should be very careful as to our operating on these cases with the view of curing an established deafness. If it is a beginning otitis, if it is an otitis in which acute attacks are just beginning to occur, then we should search very carefully to find out where the lurking nidus is, which supplies those inflammations. But once the chronic condition is established, it is very little effect that we will have upon the condition by an operation on the nose. Of course, that we should cure the nasal condition, whatever it is, if indications are sufficient, goes without saying, but we should not hope too much in the way of curing the otitic condition once it is established by our interference with the nasal condition.

Dr. H. L. Pollock, of Chicago: I fully agree with the previous speaker, but a year ago Heath, of London, advanced a new theory, which at that time seemed very plausible to me, for these chronic sclerotic cases. At that time he claimed that this condition is not one of sclerosis, as is generally supposed, but rather one of atrophy of the ligaments connecting the bones of the ear. Usually in these cases we get a patulous tube; very often there is no obstruction in the nose and the drum-head is very lax. This he attributes to the constant blowing of the nose, especially in those cases where there has been sinus trouble, where there is much discharge from the nose. He suggested at that time a treatment to the drum membrane itself in the way of an irritant, thereby stimulating the muscles of the ear to perform their work more fully, and he gave a very large number of successful cases treated in this way.

I tried this method, starting about a year ago, by local application of irritants to the ear, composed principally of about 1-500 cantharidin, making daily applications until the membrane became irritated. The treatment is continued until a blister forms on the tympanum, waiting a few days until this blister disappears, and then continuing with the treatment for several months. I have found a great many patients to be benefited. The hearing is somewhat improved and the tinnitus gradually disappears.

Dr. Frank Allport, of Chicago: I think it well to endorse Dr. Pierce's remarks. We are frequently warned that there is a great connection between the nose and throat and chronic catarrh of the middle ear. I am firmly convinced that this dogma may be and probably is true in most acute, inflammatory conditions of the middle ear, but I do not believe it to be true in old chronic cases that have been in existence for years. I have treated and operated upon the turbinated bone, septum, etc., in these old chronic cases, and I must say that I have practically never been able to find any connection between them and the old chronic middle ear diseases. Bad nasal conditions should, of course, be taken care of on their own account, but I am convinced we will find that we

will almost invariably be disappointed if we expect to relieve old chronic conditions of the middle ear by treatment and operations upon the nasal spaces.

Dr. Pollock refers to Dr. Heath's method of treating middle ear conditions accompanied with relaxed drumheads by the persistent painting with cantharides. I have tried to carefully select a few cases and to use the Heath treatment on them, but I have failed to get good results. This may be, of course, my own fault, but the fact remains, that I do not obtain results. I know of a few good men who are rather enthusiastic on this method of treating such cases, but I believe they will soon see the day that they will abandon this procedure. I believe that this method of treating such cases is simply one of those efforts that spring up ever and anon in the brains of some fertile and restless genius to relieve or cure this discouraging disease. I can remember when the removal of the ossicles was heralded as a cure for chronic middle ear deafness and was used from one end of the country to the other. It is now totally abandoned, and we look back and wonder why we were ever deceived. I believe we will have the same experience in looking back over the history of the Heath treatment. I believe this treatment to be just about as valuable as Heath's mastoid operation, and in my judgment, that is not saying much in favor of it.

Dr. J. A. Pratt, of Aurora: One word with reference to the Heath treatment. I ran it through a series of seven cases, and at first I thought I received some benefit, but afterwards there was none. Last summer, in Boston, I met Dr. Heath and also his assistant. I took the assistant aside and asked him with reference to this, and he told me frankly that there was nothing in it. Of course, you might get some benefit in some cases. One in particular: An old man, nearly seventy, was "stone" deaf, and during the most inflammatory part of the application to the drum he could hear a wagon rumble, but afterwards he could hear nothing. That was the only case of the seven referred to in which this line of treatment was followed that showed any improvement, even temporary. I just tried it out, but from what his assistant said to me, I feel that it does not merit very much consideration.

Dr. A. H. Andrews, of Chicago: From Dr. Heath's writings and his personal statements, we are led to believe that he does not differentiate clearly between the so-called spongifying of the labyrinth and otitis media. It is the opinion of most of us that they are two separate and distinct conditions, absolutely independent of each other, and if Heath, or any other man, in my judgment, undertakes to cure the so-called spongifying of the labyrinth by painting the drum membrane, or any other method of treatment now known, he will fail, and if he treats cases of non-suppurative deafness indiscriminately, he will succeed in some and

fail in others, and will never know why he succeeded or why he failed.

Our first duty is to differentiate between the two conditions. When we have differentiated between the two, we should let alone those of otosclerosis, or spongifying of the labyrinth capsule, and do what we can for the otitis media cases.

This plan of irritating the drum membrane is not new. It did not originate with Heath. A Dr. Dalby, of Cedar Rapids, Iowa, twenty-three years ago, told me that he had been able to help temporarily a great many of these cases of old chronic non-suppurative deafness with irritation of the drum membrane, but he said they did not remain benefited.

I have experimented with the different electric currents on these cases. The atrophic cases I have been able to help, and the improvement has continued for years. The otosclerotic cases I have not and never expect to be able to help.

With regard to the influence of the nose on catarrhal deafness, I would say that I believe that operating after the deafness is well established is like locking the door after the horse is stolen—it is too late to do any good. And still, as Dr. Pierce and Dr. Allport have said, it is well to correct abnormalities for their own sake, but not for their effect upon the hearing. We will be disappointed if we do, and so will the patient. But in addition to the direct relation of the nasal condition upon the ear, I believe that there is a vaso-motor condition which we do not yet understand, and whether we ever will or not, I do not know, but I believe that there is a vaso-motor relation between the throat and the ear that is not direct, but that has a very decided effect in producing the so-called catarrhal deafness.

Dr. Geiger (closing the discussion): I want to thank the gentlemen for the remarks they have made on my paper. I thought that if I could elicit some discussion on this subject that it would be of benefit to me, and perhaps to all of us.

The chronic conditions, as we all know, are not very amenable to treatment, and perhaps I was not quite specific enough in my paper when I said that in youth patients were more subject to catarrhal diseases, and that we should recognize and warn them of not caring for nasal obstructions and nasal suppurations at the time in those cases.

So far as the accessory sinus diseases are concerned, we do not find them so frequently in children—in my experience, at least, but my observations has been more limited, of course, than that of some others. I have felt that in adults at least some of these suppurative sinus cases were responsible for some of the cases of middle ear catarrh that we see starting in adult life. We all see, I think, more of the acute catarrhal cases in children, and if the rest of you have had the same experience as I, we will perhaps find that more of them are due to adenoids than we thought.



THE TIME ELEMENT IN THE OPERATIVE TREATMENT OF ABDOMINAL INJURIES, WITH A CONSIDERATION OF 172 CASES, TAKEN FROM THE RECORDS OF COOK COUNTY HOSPITAL\*

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Several abdominal injuries involving the viscera are of such frequent occurrence and are so commonly unrecognized until serious, if not fatal, complications have arisen (our series showing a general mortality of 31 per cent, and much higher in severe cases), that an analysis of any large number of cases is always instructive. This discussion has to deal with the clinical course of 172 cases of abdominal injury, the entire number treated at Cook County Hospital from July, 1909, until May, 1913, practically a period of four years. It includes pathologic changes of a mild and extensive nature.

This report considers 172 abdominal injuries.

1. Sixty-five subcutaneous injuries.
  - (1) Twenty-nine mild cases.
  - (2) Thirty-six severe cases.
    - (a) Ruptured bladder, 6.
    - (b) Ruptured kidney, 6.
    - (c) Ruptured liver, 4.
    - (d) Ruptured spleen, 2.
    - (e) Ruptured intestine, 5.
    - (f) Extreme multiple injuries, 13.
2. One hundred and seven open injuries.
  - (1). Fifty-nine gunshot wounds.
  - (2) Forty-eight stab wounds.

The mortality rate in cases of severe abdominal injury is very high and it has long been recognized that our success in the application of surgical therapy is in inverse ratio to the length of time elapsing between the injury and the time of operation.

It is most essential that the nature of the injury be ascertained as early in the clinical course as possible. In the analysis of this series of cases only one phase of the subject will be discussed,

namely, a consideration of the records in so far as they show the length of time elapsing between the injury and the treatment, together with the effect this may have had on the end result.

It may be assumed without fear of contradiction that delayed treatment is the result of a failure to correctly diagnose the condition, rather than to a difference of opinion among medical men as to the proper course to pursue when we believe that we are dealing with a severe abdominal injury, involving a rupture of or penetration of a viscus. The consensus of opinion then is that an abdominal section is imperative. The question, therefore, resolves itself into one of diagnosis.

There are naturally some few cases in which the signs and symptoms are obscure and the diagnosis rendered difficult, but we believe that in a vast majority of cases of severe abdominal injuries the condition should be recognized early enough to institute proper surgical measures.

If the wound be one that penetrates the abdominal wall, whether from a stab or gunshot, we should not have recourse to any of the various methods to determine if the viscera are injured. Such methods are uncertain and unsafe, and an abdominal section should be done without loss of time. Laparotomy should be performed at once, without a consideration of the presence or absence of the signs and symptoms of visceral injury. Moreover, if there is any uncertainty as to whether the wound is penetrating or not, the same applies. There is a distinct mortality in this series from cases judged to be non-penetrating, in which operation was delayed; in fact, this is the usual excuse for expectant treatment.

The cases, then, that will require surgical judgment as to the proper course to pursue are the severe nonpenetrating injuries to the abdomen in which trauma to the contained viscera is suspected. The importance of such judgment may be inferred from the fact that these are the most fatal cases of all abdominal injuries in this series, showing a mortality of 67 per cent, a mortality which we feel could be materially reduced by better surgical judgment resulting in earlier diagnosis and operation.

Diagnosis depends upon:

*First:* The nature of the injury and the length of time since it occurred.

\*Read at the Sixty-third Annual Meeting of the Illinois State Medical Society, at Peoria, May, 1913.

*Second:* A consideration of the symptoms and signs, and their persistency.

It is most important to give some thought to the nature of the accident as regards its severity, such as the distance the patient may have fallen and the kind and force of the object striking the abdomen. It has been observed that small objects striking the wall with a sharp, quick force are particularly apt to produce a subcutaneous rupture of a viscus. A kick from a horse illustrates this type of injury. Here it may also be noted that severe crushing injuries are apt to cause a rupture of an intestine by impinging it against a bony prominence. A hollow viscus is always more prone to rupture when distended, as with gas. On the other hand, slight trauma has produced marked pathology.

In the examination of the patient a great deal can be determined from the general appearance of shock. The skin is pallid and moist. The lips and finger nails are of a bluish tinge. The face is pinched and drawn. The pulse is weak and rapid, the blood pressure low. The temperature is subnormal. We are inclined to lay great stress upon the diagnostic value of the persistence for a number of hours of these signs of shock. It has been our experience that unless a trauma of the viscera has occurred the shock is only transient, in an injury to the abdominal wall alone. The negative value is, however, less in regard to this finding. Absence of persistent shock does not rule out serious visceral injury.

If a viscus is injured we have the signs of peritoneal irritation, which are, of course, more pronounced if there is an escape of the contents of the stomach, intestine or bladder rather than of blood alone.

These symptoms and signs are severe abdominal pain and tenderness, nausea and vomiting, constipation or obstipation, and, last, what we believe to be the most reliable sign, muscular rigidity.

This muscular rigidity is a spontaneous splinting to protect the insulted peritoneum, and usually persists even after morphin has been given. The giving of morphin is, of course, a mistake, unless a diagnosis has been made and the treatment outlined and consented to, yet we are frequently called upon to see patients where large doses of morphin have been given. A leucocyte

count may be of value; also a hemoglobin estimation and an erythrocyte count.

In summing up these symptoms and signs, what shall determine our judgment in advising an abdominal section?

It is our firm conviction that, given a case in which the injury is known to be severe, the shock persists for several hours and there is abdominal rigidity, it is our plain duty to advise an immediate laparotomy.

We believe that under these circumstances any palliation or delay deprives the patient of his only chance of recovery. This broad statement we believe is justified and substantiated by a consideration of these records.

#### Abdominal injuries:

	Per cent.
172 cases . . . . . 54 deaths.	Mortality, 31
102 operated on . . . . 45 deaths.	Mortality, 44
70 not operated on.. 9 deaths.	Mortality, 13
1. Subcutaneous injuries:	
65 cases . . . . . 24 deaths.	Mortality, 37
27 operated on . . . . 19 deaths.	Mortality, 70
38 not operated on.. 5 deaths.	Mortality 13
(1). Mild:	
29 cases . . . . . 0 deaths.	Mortality, 0
None operated on.	
(2). Severe:	
36 cases . . . . . 24 deaths.	Mortality, 67
27 operated on . . . . 19 deaths.	Mortality, 70
9 not operated on.. 5 deaths.	Mortality, 56
(a). Ruptured bladder:	
6 cases . . . . . 3 deaths.	Mortality, 50
6 operated on . . . . 3 deaths.	Mortality, 50
(b). Ruptured kidney:	
6 cases . . . . . 1 death.	Mortality, 17
2 operated on . . . . 1 death.	Mortality, 50
4 not operated on.. 0 deaths.	Mortality, 0
(c). Ruptured liver:	
4 cases . . . . . 2 deaths.	Mortality, 50
4 operated on . . . . 2 deaths.	Mortality, 50
(d). Ruptured spleen:	
2 cases . . . . . 2 deaths.	Mortality, 100
2 operated on . . . . 2 deaths.	Mortality, 100
(e). Ruptured intestine:	
5 cases . . . . . 4 deaths.	Mortality, 80
5 operated on . . . . 4 deaths.	Mortality, 80
(f). Multiple injuries:	
13 cases . . . . . 12 deaths.	Mortality, 92
8 operated on . . . . 7 deaths.	Mortality, 88
5 not operated on.. 5 deaths.	Mortality, 100



## 2. Open injuries:

107 cases . . . . .	30 deaths.	Mortality,	28
75 operated on . . .	26 deaths.	Mortality,	33
32 not operated on..	4 deaths.	Mortality,	13
(1). Gunshot wounds:			
59 cases . . . . .	26 deaths.	Mortality,	44
43 operated on . . .	22 deaths.	Mortality,	51
16 not operated on..	4 deaths.	Mortality,	25
(2). Stab wounds:			
48 cases . . . . .	4 deaths.	Mortality,	8
32 operated on . . .	4 deaths.	Mortality,	12
16 not operated on..	0 deaths.	Mortality,	0

An operative mortality of 44 per cent. as opposed to a non-operative of 13 per cent. might lead one to the conclusion it were better not to operate at all.

This illustrates well that to draw deductions superficially from these figures would lead at once to most serious error. Only after careful analysis will the true facts be revealed, which are very different from any such hasty conclusion and practically reverse its meaning.

Certain general observations will here be made.

Nearly all cases treated by the non-operative method are of two main varieties:

1. Cases of a very mild nature in which operation was scarcely to be considered, and any mortality at all would be surprising. These constitute by far the greatest number and account for the low mortality in the non-operative cases.

2. Cases hopeless from all points of view—these give whatever mortality there is to this list.

Thus the mortality rate of expectant treatment depends upon a chance blending of these two factors, and it is manifestly incorrect to compare it at all to the figures of operative mortality. The true mortality of expectant treatment is found in the heightened death rate of delayed operation, because, as any cases which have been subjected to the hazard of "waiting" begin to show alarming symptoms, they are invariably rushed to the operating table in the attempt to correct a mistake that is usually fatal—converting what might have been a life-saving operation into something akin to an autopsy.

Thus our expectant list contains at most only such cases of any severity as survived the unwarranted chance that was taken. They are too few to influence the figures of expectant treatment,

which list contains none of their mortality, although such is its due.

The only fair comparison is to state that such cases of any gravity that have survived expectant treatment have run the gauntlet of the higher figures of late operative mortality, as opposed to those of earlier.

Though it is unnecessary to lay stress upon this point, many of the apparently mild cases unoperated on were observed too short a time to know the real outcome. The patient seems to take his case into his hands and leaves the hospital in this type of injury.

Several general factors swell early operative mortality, and while they make the results less striking, they do not, as a rule, disturb their general trend. There is certainly no correct way of eliminating these from our lists, and we let them stand rather than do any unjustifiable tampering. We refer to them from time to time.

1. Desperate cases are rushed with great speed to the operating room, and add a list of high mortality to the early hours of operation.

2. The records are very incomplete upon one essential point. Probably not over half state the exact time of injury. We then assume that the patient was hurried to the hospital and estimate the hour of operation from that of admission. In an unknown number of cases the injury has occurred some time before, and early operation is again credited with a death rate not its due.

Finally, the element of chance is present even in so large a series as 172 cases, and undoubtedly in its smaller subdivisions. In the case of the gunshots this may account for the anomalous results, as well as in some others.

## Key to Series:

C: Contusions of abdomen.

R: Ruptured viscera.

E: Extreme multiple injuries.

M: Miscellaneous.

S: Stab wounds.

G: Gunshot wounds.

1. *Subcutaneous injuries.* A dangerous type. Mortality, 37 per cent. as opposed to 28 per cent. in open injuries.

The operative and non-operative mortalities are composites of the mild and severe cases, and are better understood in the separate study of each.

(1). *Mild subcutaneous injuries.* Twenty-

nine cases; none operated on and all recovered. Cases C. 1 to 3; C. 5 to 28; M. 1 and 2.

Nine left the first day and two the second—so could not be sufficiently observed.

The remaining 18 were apparently insignificant injuries, but one, Case M., 1, developed a perinephritic abscess a year later.

(2). *Severe subcutaneous injuries.* There were 36 cases, with a mortality of 67 per cent, the highest in the whole series for a distinct type of case.

Nine were not operated on, cases C., 4; R., 8, 11, 20, 26, 27; E., 1, 2, 3. Mortality, 56 per cent.

The five deaths were in desperate cases. The four recoveries were all in cases with trauma to the kidney, with marked hematuria. This was the only type of severe subcutaneous injury that survived expectant treatment, and below we demonstrate that in this type as well recovery is more certain with operative interference. Moreover, no diagnostician could limit the trauma accurately to the kidney.

Twenty-seven cases were operated upon, as follows:

Hour of Operation After Injury.	Operated on.	Deaths.	Mortality per cent.	Serial No. of Cases.
1- 3	4	2	50	R., 14, 14, 6
4- 6	2	1	50	R., 19, 30
7- 9	4	3	75	E., 5, R., 16, 18, E., 4
10-12	3	2	67	R., 9, 7, 28
19-21	1	1	100	R., 23
22-24	1	1	100	R., 15
Over 24	11	8	73	R., 2, 3, 5, 10, 12, 13, 17, 22, 24, 25, 29

While not so striking as the increase of mortality with delay undoubtedly is, because of the disturbing factors we have enumerated, the upward trend is clear.

Uncertainty as to time of injury plays a large part in the figures of early mortality; only one case is known to have been operated on in the first three hours. Thus, early mortality is surely below 50 per cent, although we allow that figure to remain.

Eleven cases were operated on between twenty-

four hours and twenty-two days after injury. Three of these recovered.

Case R., 12. Operated on second day; ruptured jejunum;; survived general peritonitis.

Case R., 29. Operated on second day; ruptured liver; nearly died on the operating table.

Case R., 5. A ruptured bladder; operated upon the fourth day.

We do not think that because such cases may possibly survive they can be any argument in favor of delay.

The above figures demonstrate that temporizing is most destructive to life in this class of case, the most fatal of all types of abdominal injury. Early operations show a mortality of something certainly under 50 per cent. and delay of twenty-four hours causes the same to rise to practically 100 per cent. Further it may be plausibly argued that the very reason why severe subcutaneous injuries of the abdomen are the worst of all forms is that operation is in these very cases most often delayed, hoping that no serious visceral injury has occurred while the precious moments elapse and carry with them the only chance of saving life.

Considering each type of severe subcutaneous injury separately, we have:

Ruptured bladder: Six cases; 3 deaths; mortality, 50 per cent. Three cases were operated on within six hours of injury (R., 1, 3 and 6), with one death—mortality, 33 1-3 per cent. Three were operated on later—2 deaths—mortality, 66 2-3 per cent. (R., 2, 3, 5).

Ruptured kidney: Six cases; one death; mortality, 17 per cent. Four not operated on, with no mortality (R., 8, 11, 26, 27). Two were operated on with one death—mortality, 50 per cent. (R., 6, 15). This operative mortality of one case (R., 15) is not really that of operating at all, but that of delay and expectant treatment. The case was operated on twenty-three hours after injury, while the one that recovered was operated on in three hours. Thus out of five cases giving indications of serious kidney involvement, four improved under expectant treatment and one became worse, was operated on late, and died. Thus the mortality of the most successful expectant treatment of any of this series of cases is 20 per cent. in reality, and we believe a preventable 20 per cent. Not only that we mentioned before that the only serious subcutaneous



traumas that recovered at all under expectancy were these very kidney cases, and we here see that in them recovery is less likely than if operated on early.

Ruptured liver: Four cases; 2 deaths; mortality, 50 per cent. (R., 18, 7, 28, 29). All were operated on, none before eight hours after injury—certainly a factor increasing mortality.

Ruptured spleen: Two cases, both died. Mortality, 100 per cent. (R., 16 and 9). These were operated on late—eight and ten hours respectively after injury, a delay which probably cost both lives.

Injured intestine: Five cases; four deaths; mortality, 80 per cent. (R., 12, 13, 22, 25, 10). All were operated on, not one before the second day—a delay which here resulted in the death of all save one case (R., 12), which we mentioned above as recovering after general peritonitis.

Of extreme multiple injuries, there were 13 cases; 12 deaths; mortality, 92 per cent. Five were not operated on and all of these died (C., 4, R., 20, E., 1, 2, 3). Eight were operated upon, and seven of these died; mortality, 88 per cent. (R., 14, 19, E., 5, 4, R., 23, 21, 24, 17). Of those operated upon, the mortality up to seven hours after injury was 67 per cent. and thereafter, 10 per cent. Thus the only case saved of these extreme injuries was one operated upon in the earlier hours. This was case E., 5, with injuries to spleen, bladder and intestine. Some of the cases not operated on were, of course, absolutely hopeless, and we recognize the futility in such a situation.

2. *Open injuries to the abdomen.* This series of 107 cases shows a general mortality of 28 per cent. Operative mortality is 33 per cent. and is composed mainly of gunshot wounds.

Expectant mortality is 13 per cent. and is due solely to four hopeless cases where operation was not to be considered. The large number of recoveries were chiefly in cases obviously not penetrating. Hence this figure of expectant mortality can give no information of value when it is compared with that of operative mortality.

(1) Stab wounds of the abdomen: Forty-eight cases; 21 deaths; mortality, 8 per cent.

(a) Sixteen cases were not operated upon, with no deaths (S., 3, 8, 9, 11, 12, 13, 14, 17, 20, 24, 27, 29, 35, 37, 39, 40). Four were not sufficiently observed to tell the outcome. Practically

all of these were slight cuts, obviously not perforating. If doubt existed in any of the number, such were subjected to the added risk of late over early operating, as given below.

(b) Thirty-two cases were operated on, with four deaths, and a mortality of 12 per cent.

Hour of Operation after Diagnosis.	Number operated on.	Deaths.	Mortality per cent.	Case numbers.
1-5	24	2	8	S., 1, 3, 14, 28, 31, 38, 42, 5, 4, 7, 15, 18, 23, 30, 40, 44, 33, 32, 41, 6, 10, 13, 45, 26.
6-10	5	0	0	S., 23, 34, 46, 16, 48.
11-15	1	1	100	S., 28.
16-20	2	1	50	S., 43, 21.

These figures illustrate partially the effect of delay upon increasing mortality, but the factors of error are here easily separable.

Of the two early operative deaths, S., 31 was a stab wound involving the left ventricle of the heart—not a mortality of abdominal surgery. S., 36 was a very severe injury, with evisceration of three feet of bowel, which was strangulated in the wound, and while operated on within two hours of admission, the time at which the injury took place is not known.

Of the two cases, S., 28 and S., 21, operated on at twelve and twenty hours respectively, both were stab wounds of average severity; both died of general peritonitis—the result of delaying operative interference.

Thus we can say that, excluding the case with fatal injury to the heart and the other of unusual severity (evisceration and doubtful data as to time of injury), the only mortality in abdominal stab wounds in this entire series is due to delay in prompt laparotomy. When we realize that this means the entire number of cases treated in Cook County Hospital for the past four years, we appreciate its true significance. Practically every stab wound that penetrates into the abdominal cavity can be saved by early laparotomy.

Thus, our figures of preventable mortality are:

Hour of Operation.	Mortality Per cent.
1 to 5 .....	0
6 to 10 .....	0
11 to 15 .....	100
16 to 20 .....	50

Moreover, the general operative mortality with no corrections is 7 per cent in the first ten hours, and 67 per cent thereafter.

(2) Gunshots of the abdomen we shall treat in less detail, because while the series is large, many factors of error which we are unable to eliminate render the results ambiguous. There are 59 cases with 26 deaths—a mortality of 44 per cent. Thus these are the most serious open injuries to the abdomen, and second only to severe subcutaneous injuries.

Sixteen were not operated on, with 25 per cent. mortality. The deaths were four practically hopeless cases—G., 3, 28, 57 and 58, which died in five, fifteen, thirty and fifty minutes, respectively, most of them being multiple gunshots. The remaining cases were practically all clearly non-penetrating, such as when the bullet had struck upon a rib and there remained. Thus, as all through our series, the non-operative mortality has little meaning.

Forty-three cases were operated upon, with a mortality of 51 per cent.

So many desperate cases were operated upon in the early hours of entering the hospital that the early operative mortality would be unduly swelled by them.

Again, the records are so incomplete in this series as to the exact hour of injury that, taken with the above, it is impossible to accurately tabulate the results so as to demonstrate the increase of mortality with delay in abdominal section.

We frankly admit that gunshots seem to be less hopeful from the standpoint of operation than do stab wounds. Yet if properly disentangled there is no doubt that the cases which should be legitimately considered as operated on early would show a far higher percentage of recovery than those operated on late. However, we desire to report only actual results that are unquestionably representative of our series of cases. Thus, we have usually allowed no percentages to remain much less striking than would be the case if we ventured to eliminate any of the sources of

error. We do not believe such methods would be here justifiable and prefer to allow the gunshot series to stand as it is, and not to claim its support in our plea for early treatment—especially as our point has been established already without its aid.

#### CONCLUSIONS

1. Abdominal injuries are of a serious nature. General mortality, 31 per cent. As to types: Severe subcutaneous injuries, mortality 67 per cent; gunshot wounds, mortality 44 per cent.; stab wounds, mortality 8 per cent.; mild subcutaneous injuries, mortality 0 per cent.

2. The result of delayed operation in serious cases is to increase mortality.

In subcutaneous severe injuries our figures show this to be the case, as well as in stab wounds, and we hold it true of gunshots as well.

3. Delay is most common in the subcutaneous injuries, because of failure to correctly diagnose the gravity of the case. This may be the reason that the mortality here is the highest of any type of case. In other injuries delay is sometimes due to an unwarranted assumption that the wound is not perforating.

4. We urge early diagnosis and early operation of all serious cases, especially of severe subcutaneous injuries, which are those most often overlooked.

#### ABSTRACT OF DISCUSSION.

Dr. Clifford U. Collins, Peoria: Every surgeon dislikes very much to operate on patients unnecessarily. This sometimes makes him hesitate. It is hard to explain to a patient and the relatives why you have operated when you cannot show a good reason for it; nevertheless I am heartily in accord with the conclusions of Dr. Besley, and only once have I opened the abdomen in a case of suspected injury and found nothing. This patient was a man who was hit by an automobile and it would come under the head of subcutaneous injuries as spoken of by the essayist. The abdomen became distended. We opened the abdomen, ran over the intestines and not finding any lesions we closed the incision and no harm was done.

I wish to mention one point in the symptomatology, namely, that a thermometer in the rectum will show elevation of temperature in injuries of the abdomen when a thermometer under the tongue will not.

Five years ago I was called to a town 30 miles from here to see a man who was kicked by a horse. His pulse and temperature were normal. There was some slight rigidity of the abdominal muscles,



but I hesitated really to open the abdomen of this man because his condition seemed so good. I finally took out my thermometer and placed it in the rectum and it showed a temperature of 100.5. On opening the abdomen we found a round hole in the ileum which was made by the horse's hoof, pressing the bowel against the promontory of the sacrum.

In patients giving a history of appendicitis, when the thermometer was put under the tongue it will show little or no elevation of temperature, but when it was put in the rectum it will show one or two degrees of fever, and in every case the patient's appendix was found acutely inflamed.

Dr. John Dill Robertson, Chicago: For the most part I agree with the conclusions of Dr. Besley, and at the same time in these cases the symptom complex should be the guide for operating. I will illustrate this by relating two cases that came under my observation.

The first case was one of gunshot wound of the bladder in which the man about half an hour before voided his urine and only a few c.c. of bloody urine was taken away with the catheter. The bullet passed through above the pubes and out at the right buttock. A catheter was introduced into the man's bladder. No operation was done and he recovered in 10 or 15 days. In that particular case it would have been a mistake to have operated. The gunshot wound was low down, and had I gone in front and enlarged the opening in the bladder for the purpose of repairing the wound in the posterior bladder wall, in all probability it would have done more harm than the expectant treatment.

Another case was that of a boy, aged 10 years, who four weeks ago was run over by a six-horse van. The wheel passed directly over the lower ribs and over the abdomen. There was no shock to amount to anything. No operation was done and he recovered.

I think we can make a mistake by going too far. On the other hand, we cannot depend upon grouping a number of cases in relation to the various organs of the body, nor upon dividing them into classes. All cases must be treated individually and the symptom-complex must be considered, although I agree that the symptom-complex is not always a true index to the underlying injury.

Dr. Charles C. O'Byrne, Chicago: To illustrate how a comparatively insignificant injury may cause subcutaneous rupture of the intestine, I will say that a few weeks ago a man in shoveling crushed stone stumbled and fell on the handle of the shovel, following which he had a severe pain. He was in severe shock. The abdomen was opened within a few hours from the time the injury had occurred, and an injury of more than two inches long, consisting of a rupture of one of the coils of the intestines, was found; this was closed and the man recovered.

Another case was that of a girl, aged 9 years, who was run over by a motor truck. I saw her within two hours after the injury. The child showed evidences of shock, and upon opening the abdomen

I found nothing abnormal. Of course, it was an exploratory incision, and the little girl was well in a few days. I believe it is better to make an error on that side rather than to have waited until she showed evidences of peritonitis, and then her life in all probability would have been lost. It is certainly far better to open the abdomen occasionally and be mistaken, especially in cases where you suspect a traumatic rupture of subcutaneous viscera, than to do nothing. These cases and others that have been reported show that a comparatively trivial injury at times may cause great damage. In this case of the little girl a large touring car passed over the abdomen, and yet there was no injury to an internal organ that I could determine.

Dr. Allen B. Kanavel, Chicago: There are two points I would like to call attention to. In the first place, to my mind the essential thing in a subcutaneous injury is that the abdominal muscles should be caught before they are able to protect the intra-abdominal viscera. That means, therefore, any injury that is sudden and severe is one which will produce subcutaneous injury. Statistics will bear out that fact. We find subcutaneous injuries are due, in the first place, to horse kicks, and secondly, to boards shot from a planing mill against the abdominal wall, and any injury like the fall of a board, or a railroad tie will produce a rupture. These cases should be operated upon at once, because the proportion of rupture is so great that one is not justified in waiting.

The essential factor in the diagnosis, where there is doubt possibly, is the question of rigidity. I do not believe the question of shock is so important because we frequently see these cases after the shock has subsided, and the shock is frequently not so severe even in severe injuries. If by the light feather touch we find rigidity on one side of the abdomen, in contradistinction to another portion, we are justified in believing that the injury has produced a subcutaneous rupture of some viscus.

A second point is this: It has been my experience to meet with two cases in which I opened the abdomen and found no evidence of a rupture of a viscus. I did, however, find a violent inflammatory reaction without the presence of pus or any other evidence of rupture in the abdominal cavity. In both of these cases I found the patient had suffered extra-peritoneal rupture of the duodenum. Both patients died, not of peritonitis, but with evidence of violent toxemia, whether due to absorption from the pancreatic secretion or to toxins from the duodenum, I do not know.

Dr. E. M. Sala, Rock Island: I want to report briefly a recent case, one which happened within the last week, and is along the same line as those reported and in which I am unable to report a favorable result.

My patient, a man, was kicked by a horse last Friday. He had no internal nor external evidence of injury. I saw him an hour after the injury; he was in collapse; I gave a small dose of morphin,

one-eighth grain. He seemed to be suffering a great deal of pain. I was called to see him the next day and the collapse had disappeared and all the symptoms cleared up except the pain, which continued. He continued to have pain, and the following day his temperature was normal all day, as well as the following night. Last Sunday at noon, 42 hours after injury, I found him in a collapsed condition and practically dying. Of course, he was hurriedly taken to the hospital. There were hardly any symptoms to justify opening the abdomen. However, we performed, as Dr. Besley says, an ante-mortem operation. He died soon afterwards. I simply opened the abdomen and drained it. The operation did not last more than three or four minutes. I made a post-mortem examination and found that the man had sustained rupture of the small intestine, with an opening large enough to admit my thumb, with a protrusion of the mucous membrane with adhesions all over the abdomen. There was fecal matter in the abdominal cavity, but there were no symptoms apparently until the second day of the injury to justify an operation, but I am quite sure an operation performed the day before would likely have saved him.

Dr. Mark T. Goldstine, Chicago: I had the good fortune of working under the same circumstances almost that Dr. Besley did his work, only my injuries were in cases that were mostly confined to obstetrics and gynecology. It seems to me that in any injury of the abdomen, where there is any symptom that injury has been done to the bladder, as in the case reported this afternoon of a perforating wound of the abdomen which involved the bladder, with blood in the urine, it is criminal to use expectant treatment. We are perfectly justified in operating under such circumstances. It has been surprising to me in my experience how many symptoms a patient may get from an abdominal injury internally and how few symptoms are manifested externally. It is my opinion that in abdominal injuries, if you have only one symptom from an organ, such as blood from the bladder or kidney, it is an indication to operate.

Dr. Frederick A. Besley, Chicago (closing the discussion): I have just one thing to say, and that is, I desire to acquiesce in the statement that a comparatively trivial injury to the abdominal wall may produce a very severe injury to the abdominal viscera.

## OBSTRUCTION OF THE BOWELS; AND LESSONS TO BE LEARNED FROM

### A REVIEW OF 75 CASES

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In this paper only mechanical obstruction, where the lumen of the bowel is occupied by

causes outside of the lumen, is considered.

The mortality of obstruction of the bowels has been estimated all the way from 30 to 50 per cent. Chas. L. Gibson<sup>1</sup>, in his classical article in 1900, in which he classified 1,000 cases of obstruction of the bowels, estimated the mortality at 43+ per cent. Everyone admits that the mortality is too high and this series of 75 cases was studied to see what lessons could be learned from them and to see what, if anything, could be done to lower the mortality.

This series represents all the cases of obstruction treated in the practice of the writer from January 1, 1900, to January 1, 1913.

The number of cases was 75; recoveries, 52; deaths, 23; mortality, 30 per cent.

The mortality has been considerably decreased since Gibson's article in 1900. Surgical technique has improved greatly since then. In the first 37 cases of those under discussion today there were: Recoveries, 21; deaths, 16; mortality, 43 per cent.

In the last thirty-eight cases there were: Recoveries, 31; deaths, 7; mortality, 18.5 per cent.

#### NATURE OF OBSTRUCTION

	Cases	Recoveries	Deaths
1. Inguinal hernias .....	24	22	2
2. Femoral hernias.....	11	6	5
3. Umbilical hernias.....	2	1	1
4. Intussusceptions .....	3	2	1
5. Volvuli .....	4	2	2
6. Adhesions .....	15	8	7
7. Bands .....	6	4	2
8. Traumatic stricture.....	1	1	0
9. Malignant tumor of colon....	7	6	1
10. Undeveloped intestine.....	2	0	2

#### MORE THAN ONE CAUSE FOR OBSTRUCTION

Strangulated inguinal hernia, volvulus, and fibrous band; recoveries.....	1
Strangulated femoral hernia and volvulus; deaths .....	1
Strangulated femoral hernia and carcinoma of colon; recoveries.....	1
Hernia through opening made by adhesions; deaths .....	1
Adhesions of ileum and a volvulus; recoveries .....	1
Fibrous band and a volvulus; recoveries...	1

<sup>1</sup>Presented to the sixty-third annual meeting of the Illinois State Medical Society, at Peoria, May, 1913.

<sup>1</sup>Gibson, Chas. L. A Study of 1,000 Operations for Acute Intestinal Obstruction and Gangrenous Hernia. *Ann. of Surg.*, Oct. and Nov., 1900.



Intussusception and tumor of cecum; recoveries .....	1
Strangulated inguinal hernia and narrow band across neck of sack; recoveries...	1

## DURATION OF OBSTRUCTION

	Recovery	Death	Mortality, Pct.
2 days or more.....	23	16	41
1 day and less than 2 days	7	3	30
12 to 23 hours.....	8	3	27
Less than 12 hours .....	9	0	0

## CONDITION OF BOWEL

Gangrenous .....	3	8	72+
Not gangrenous .....	49	14	22+

## DURATION OF OPERATION

Longer than one hour....	2	9	82
45 to 60 minutes.....	7	4	36+
30 to 44 minutes.....	13	1	7+
15 to 29 minutes.....	20	2	9+
Less than 15 minutes....	1	0	0

## PLACE OF OPERATION

In patient's home, 11....	5	6	54½
In St. Francis Hosp., 59.	44	15	25½

Eisendrath<sup>2</sup> gives the signs and symptoms of obstruction as follows:

1. Symptoms of intestinal obstruction. The most typical ones are

1. Absolute constipation.
2. Constantly recurring vomiting finally becoming fecal.
3. Pain of varying intensity and location.
4. Gradual or sudden distention of the abdomen.
5. Gradually increasing pulse rate.
6. Visible peristalsis and the presence of a tumor.
7. Collapse symptoms, such as sunken eyes, anxious face, cyanosis, pallor, dyspnea.

If a patient suffering from a sudden attack of abdominal pain has constantly recurring vomiting and every effort to secure the passage of feces or flatus results negatively, a diagnosis of intestinal obstruction may be made. Those who were fortunate enough to hear the paper on "Abdominal Crises" by Dr. Kanavel<sup>3</sup> at Springfield during the last meeting of the Illinois State Medical Society will remember that he emphasized the fact that the family physician need

only determine that the abdominal trouble is a surgical trouble. No closer diagnosis need be made. If the surgeon is unable to make an exact diagnosis, an explanatory incision will reveal the true condition and a competent surgeon will be prepared to relieve it. This is also true of cases of obstruction of the bowels. All the family physician needs to do is to make a diagnosis of bowel obstruction. The particular form of obstruction need not worry him. Of course, he will feel a laudable satisfaction if he is able to tell the exact condition and cause of the obstruction, but it is sufficient if he knows that there is an obstruction, provided he acts promptly.

The three symptoms common to all forms of abdominal obstruction are:

1. Absolute inability to secure the passage of feces or flatus.

2. Vomiting first of mucus, then of bile and lastly of fecal matter.

3. Pain.

Every patient should be examined before operation to ascertain the probable nature and seat of the obstruction. Such examination should include:

1. The previous history.
2. The physical examination of the abdomen itself.

3. Rectal and vaginal examination.

In a case of suspected obstruction of the bowels the first thing to do is to get a complete history of the attack from the beginning to the time the patient is seen. It is better to take the time and write this history. It can then be referred to or studied at any time. Then get a history of any previous attacks. It is better to let the patient give this history himself, in his own language, if possible, rather than to let someone talk for him.

Ascertain if the patient has a hernia, and find out if he has ever undergone an abdominal operation. A history of a hernia will prompt the medical attendant to examine the hernial rings, and, if a strangulated hernia is not found, will suggest a possible volvulus, particularly if the patient is elderly, with marked abdominal pain and tenderness and shock out of proportion to the signs about his rupture, as pointed out by Miller.<sup>4</sup>

<sup>2</sup>Eisendrath, Daniel N. Surgical Diagnosis.

<sup>3</sup>Kanavel, Allen B. The Abdominal Crisis. Illinois Med. Jour., Dec., 1912.

<sup>4</sup>Miller, Robt. T. On the Coincidence of Volvulus and Real or Simulated Strangulated Hernia. Ann. of Surg., Feb., 1911.

If there is a history of a previous abdominal operation the possibility of obstructive post-operative adhesions will be suggested. Martin<sup>5</sup> claims that post-operative ileus is not a rare condition, and the percentages ranges from 0.1 to 2 per cent.

In my group of obstruction by adhesions 9 patients had been operated on before and in 3 the adhesions were clearly post-operative. This group shows the necessity for covering all raw surfaces with peritoneum to prevent postoperative obstruction by adhesions. Richardson<sup>6</sup> and Angus<sup>7</sup> have shown ingenious methods by which loops of intestine denuded of peritoneum may have the raw surfaces covered. At this time I wish to call attention to one possible cause of postoperative obstruction. In one of my patients the stump of the mesentery of the appendix was left rather long. The end became attached to the mesentery of a loop of small bowel, and made an opening, through which another loop of small bowel slipped and became strangulated. Griffith<sup>8</sup> reported an obstruction from the same cause.

If the patient gives a history of having passed blood from the rectum, or having had any coffee ground stools a short time before, it will naturally suggest a malignant tumor of the colon. Very often the history of itself will give a clue that will guide straight to a correct diagnosis.

After a careful and complete history of the case has been taken, an examination of the patient should be made. The abdominal wall and rings should be examined carefully for any enlargements that would indicate a strangulated hernia. If an enlargement has been there for some time, a close inquiry should be made as to whether it became larger about the time the acute symptoms came on. Six of my cases of hernia had had an enlargement over a hernial ring for a long time. In every case but one the enlargement had become slightly larger about the time of the beginning of the attack. The exception was a large umbilical hernia which showed no perceptible increase in size. In every case the operation revealed a loop of bowel which

had slipped in by the side of the old enlargement. It should also be remembered that a Richter's hernia, or partial enterocele, may be present in the internal inguinal or femoral rings and show no enlargement in the groin. This occurred in one of my cases. The examination is not complete unless an examining finger is passed into the rectum. It may be possible to feel the tip of an intussusception or a tumor of the sigmoid.

The nurse, or one who is waiting on the patient, should be instructed to save the vomited material until the attending physician can examine it. Watson<sup>9</sup> advises the use of a stomach tube at frequent intervals. He claims that bile and stercoraceous material from the bowels will sometimes lay in the stomach for several hours, and the use of the stomach tube will bring it up and let the physician know that it is there, and allow the diagnosis to be made considerably sooner. The manner of the vomiting should be inquired into and noted. Patients with mechanical obstruction of the bowels usually vomit easily without straining. Any discharge from the rectum should be noted. The passage of bloody mucus from the rectum of an infant or small child suffering from obstruction is almost pathognomonic of intussusception. The finding of an oblong mass in the abdomen at the same time clinches the diagnosis.

A careful inspection of the abdomen should be made and notes taken for comparison at subsequent visits. An examination should be made carefully by palpation for any lumps, masses or tumors within the abdomen. The degree of abdominal distention should be noted. A close search should be made for peristaltic waves, or a seeming rigidity of a portion of the abdominal wall which comes on and subsides with the pain. This seeming rigidity is caused by a loop of bowel underneath filled with gas. Peristalsis forces the gas into the loop. The gas cannot get by the obstruction, and the loop becomes almost as hard and rigid as a pneumatic tire. This seeming rigidity of the abdominal muscles was noted in several of my cases. In some other cases I was able to outline distended coils of intestine through the abdominal wall.

Of course the pulse and temperature should

<sup>5</sup>Martin, Frank. Postoperative Ileus. *Jour. A. M. A.*, Sept. 21, 1907.

<sup>6</sup>Richardson, E. H. A Synopsis of Studies on Peritoneal Adhesions with a Contribution to the Treatment of Denuded Bowel Surfaces. *Bull. Johns Hopkins Hosp.*, Aug., 1911.

<sup>7</sup>Angus, H. B. A Method of Treating Damaged Intestine Without Resection. *Brit. Med. Jour.*, Jan. 20, 1912.

<sup>8</sup>Griffith, J. D. *Trans. of the Western Surg. Assn.*, 1911.

<sup>9</sup>Watson, Harry G. A New Method of Diagnosis of Acute Intestinal Obstruction by the Stomach Tube. *Jour. A. M. A.*, June 17, 1911.



be taken, although they give very little evidence as to the nature of the obstruction or the gravity of the condition. I have said nothing about the giving of cathartics. I believe it is possible in most cases to make a diagnosis without giving cathartics, and I am very sure that the patient's condition will be much better if they are not given. In many cases the violent peristalsis caused by strong cathartics may do distinct harm, as in an intussusception. It may also add a volvulus to an existing obstruction. Enemas of soap suds, given with the foot of the bed elevated, will usually demonstrate an obstruction as thoroughly as a strong cathartic and is much safer. If a cathartic is given I would suggest that the physician stay with his patient and watch for peristaltic waves. There is certainly no sense in giving repeated doses of strong cathartics for a day or two with no result, as was done to several of the patients in this series of cases. Morphine should be given sparingly. The patient should not be lulled into a false sense of security. If he is suffering some pain he will be more likely to act quickly on the advice of his physician and surgeon.

There is nothing in the foregoing that any practitioner cannot do towards making a diagnosis. It does not require a laboratory or any rare and expensive diagnostic instruments. A carefully taken history and a close examination will nearly always demonstrate that there is an obstruction of the bowels, and that is sufficient.

If a diagnosis cannot be made at the first visit, the physician should keep in close touch with his patient and see him at frequent intervals until it can be made. It is not sufficient to prescribe physic and morphine and then not see the patient until the next day. And yet this is very frequently done. I want this paper to be taken as a plea for an earlier diagnosis in these cases. The last line under "Duration of Obstruction" tells the whole story. Duration less than twelve hours. Recoveries 9. *No Mortality.*

As soon as there is a suspicion of obstruction of the bowels, the necessary arrangements for taking the patient to the hospital should be made. If they should not be needed, well and good; but if they should be needed, no time will then be lost after the diagnosis is plain. I firmly believe that, if it is possible, these pa-

tients should be taken to a hospital. It does not usually require much more time to get the patient to the hospital than it does to get the surgeon to the patient; and the added facilities for doing quicker, safer work at the hospital more than counterbalances the discomfort to the patient of being moved.

And now a final word concerning the operative technic. If there is abdominal distention, the head of the operating table should be elevated. In my experience this has seemed to prevent the danger of the patient drowning in his fecal vomit. When this accident occurs, it is supposed that the anesthetic relaxes the sphincters at the cardiac and pyloric ends of the stomach and allows the intestinal contents to flow unrestricted into the stomach and out through the esophagus. In this way it gets into the trachea and lungs. With the head of the operating table elevated, gravity tends to keep this stercoraceous material in the intestines.

As soon as the administration of the anesthetic has begun, it has been my custom to put salt solution under the skin with needles. It has been done with the intention of filling the blood vessels full and thus retard the absorption of the intensely toxic material that is retained above the obstruction as it flowed down over the normal mucous membrane after the obstruction was relieved. Murphy<sup>10</sup> and Vincent claim, however, that the normal mucous membrane does not absorb very much of this poisonous material. But Hartwell<sup>11</sup> and Hoguet claim that these patients lose a lot of fluid which is a large factor in bringing about a fatal result. So the use of normal salt solution on the operating table or before seems still to be indicated, but the reason for using it has changed.

In the early hours of a strangulated inguinal hernia the incision may be made over the hernial swelling. If the patient is not brought to the surgeon until later in the course of the trouble, and the symptoms are severe and acute, it will be wiser to make an incision through the corresponding rectus muscle as well as one over the hernia. Through a rectus incision an experi-

<sup>10</sup>Murphy, Fred T. and Vincent, Beth. An Experimental Study of the Cause of Death in Acute Intestinal Obstruction. Boston Med. and Surg. Jour., Nov. 2, 1911.

<sup>11</sup>Hartwell, John A. and Hoguet, J. P. Experimental Intestinal Obstruction in Dogs with Especial Reference to the Cause of Death and the Treatment by Large Amounts of Normal Saline Solution. Jour. A. M. A., July 13, 1912.

enced trained hand can explore the abdomen in a few seconds and see if anything can be felt that would arouse suspicions of a second cause of obstruction. If anything suspicious is felt, a more thorough examination may be made. The damaged bowel can be easier treated through the rectus incision and a possible volvulus found.

In strangulated femoral hernias an incision should always be made through the corresponding rectum muscle. It is impossible to properly repair a damaged loop of intestine through a femoral ring, and it is not wise to attempt it. I think Brown<sup>12</sup> was the first to definitely advocate an incision through the rectus muscle in strangulated hernias.

For strangulated umbilical hernias the transverse incision around the hernial mass is the best and permits of immediate closure of the ring by Mayo's method, if that should be advisable.

If there is a persistent localized pain, or a mass can be felt, which indicates the probable location of the obstruction, the incision may be made through the corresponding rectus muscle.

In all cases where there is no clue to the location of the obstruction, a longitudinal medium incision below the umbilicus should be made. This incision permits an exploration of the entire abdomen. The cecum is examined first and if it is found collapsed the obstruction will be found in the small intestine, and the collapsed ileum should be traced to the obstruction. If it is distended, the obstruction will be found in the colon. Then the sigmoid should be examined. The cause of the obstruction will be frequently found there in the shape of a tumor or a volvulus of the sigmoid. If the sigmoid is collapsed, the collapsed colon should be followed to the obstruction. I know that some authors advise tracing the distended bowel to the obstruction, but the systematic plan I have outlined seems best for me. Very little time is lost in definitely locating the obstruction in this way. Of course, volvuli should be untwisted, intussusceptions reduced, bands cut, and obstructive adhesions separated. *Never forget that there may be more than one obstruction*, and always make a brief search for a possible second obstruction. In

this connection I trust I may be pardoned for referring to one of my cases.

The patient had a strangulated femoral hernia which I relieved by operation. At that time the strangulated bowel was released and the omentum sutured over the damaged area of the incarcerated loop. After three or four weeks she began to complain of attacks of pain and vomiting. I thought the cause was probably adhesions, and re-opened the abdomen through the old incision six weeks after the first operation. The appendix was removed and an annular narrowing was found where the bowel had been grasped in the hernial ring. The omentum was tightly adhered and was cut loose. The narrowing did not seem to be sufficient to cause obstruction, but I thought that this condition must be the cause and the incision was closed. It never occurred to me that there might be another entirely different cause for the obstruction. The pain and vomiting continued and finally the attacks became more frequent and more severe. A distended loop of bowel would raise up rigid and hard during the pains and peristaltic waves could be plainly seen. I decided to open the abdomen again and this time I determined to explore the entire length of intestines. When the abdomen was opened I passed my hand along the ascending colon and found a hard mass which proved to be a carcinoma. The growth was removed with the cecum and the end of the colon closed with a purse string suture of linen. The end of the ileum was attached to the side of the colon with a Murphy button. The remainder of the intestines was examined and no further cause for obstruction found. This was done in July, 1908, and the patient lived in good health till February, 1913, when she died of a heart and lung trouble that had no connection with the bowel condition. The fact that the first operation had been done for an undoubted strangulated femoral hernia led me astray and kept me from thinking of a possible second cause for obstruction.

In a general way it may be said that if there is no doubt about the vitality of the bowel above the obstruction it may be replaced after the obstruction is relieved. In determining the vitality of the damaged bowel it is well to follow the advice of Plummer,<sup>13</sup> who advises placing the

<sup>12</sup>Brown, John Young. Acute Intestinal Surgery, with Remarks of Technic. Jour. A. M. A., March 4, 1905.

<sup>13</sup>Plummer, S. C. Testing the Viability of Strangulated Intestines. Surg. Gyn. and Obs., June, 1911.



damaged loop within the abdomen for a few minutes. This places the loop in nice warm normal surroundings and relieves all tension on the mesentery which might be obstructing the circulation.

If there is doubt about the vitality of the damaged bowel a Paul's tube may be placed in the bowel above the obstruction, which will relieve the distention and drain off the retained serous material. The fistula can be closed later. If the bowel is distinctly gangrenous I believe it is better to quickly remove the gangrenous portion and suture both ends of the bowel into the incision and place a Paul's tube in the proximal end. If the proximal end is situated high up in the small intestine it may be necessary to collect the digested food as it pours from it, and inject it in the distal end. Of course the resection in this way involves one or two more operations to anastomose the bowels and close the fistula; but it is undoubtedly safer. In the cases in this series in which the obstruction was removed and an anastomosis was made and the fistula closed at subsequent operations not one patient died because of or from the effects of the necessary secondary operations.

A small loop of gangrenous or damaged bowel may be invaginated as recommended by Summers<sup>14</sup> of Omaha. I have never done it, but it seems to be a good procedure. It should be particularly applicable for the small portions of gangrenous or damaged bowel found in Richter's hernias or partial enterocèles.

I wish to condemn the practice of making a small opening in the bowel and evacuating the gas and feces and then closing up the opening. This was done several times in this series of cases but never once did it seem to do any good. It is better to make a temporary enterostomy and drain a few days with a tube.

In acute obstruction by malignant tumors in the sigmoid I feel that it is better to relieve the obstruction, remove the tumor and make the anastomosis in two or more stages. In tumors so low in the sigmoid that the distal end of the bowel cannot be brought up into the incision a larger rubber tube may be sutured into the proximal end and the tube passed into the distal end

and out through the anus as described by Balfour.<sup>15</sup> A little traction on the tube could be made and the proximal end invaginated in the distal end for one or two inches and sutured there.

If it is decided to do an anastomosis in the small bowel at the initial operation with or without resection, I think it is better to use a Murphy button or some mechanical contrivance simply because it can be done more quickly. Of course, if a surgeon can make a suture anastomosis as quickly as he can make one with a Murphy button, the argument does not hold good. In the large bowel it is better to make the anastomosis with a needle and thread. The anastomosis opening may be made larger than with a Murphy button and there is not so much danger of the semi-solid fecal matter causing a leak.

In the operation for acute obstruction one thing must be borne in mind. These patients do not stand long operations. The surgeon must get into the abdomen quickly, do the thing that can be done in the shortest time to relieve the obstruction, and get out quickly.

"If it were done when 't is done, then 't were well it were done quickly."

## SPOROTRICHOSIS IN THE UNITED STATES.\*

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The following report is a brief review of the article which appeared in full in the *Journal, A. M. A.*, November 2, 1912. I shall present in addition a summary of the work which has appeared in the literature since the publication of that article, and shall refer particularly to the geographical distribution of the disease, its occurrence in horses and lower animals, and the probable sources of infection in man.

Following the publication by Hektoen and Perkins of a report of the second authentic case of sporotrichosis in the United States in 1900, four years elapsed before the third American case was reported. In contrast to the infrequent find-

<sup>14</sup>Summers, J. E. Invagination of Limited Annular Gangrene of the Small Bowel Versus Resection. *Jour. A. M. A.*, Aug. 8, 1908.

<sup>15</sup>Balfour, Donald C. A. Method of Anastomosis Between Sigmoid and Rectum. *Ann. of Surg.*, Feb., 1910.

\*Read at the sixty-third annual meeting of the Illinois State Medical Society at Peoria, May 21, 1913

ing of the disease in this country is the strikingly rapid accumulation of cases in Europe which followed Beurmann's original report from Paris in 1903. Up to the present more than 200 cases have been put on record from all over the civilized world. As a result there has accumulated a growing mass of pathologic and clinical data, facts which show, among other things, that sporotrichosis is not alone a local skin disease, but, under certain conditions, becomes a generalized systemic infection similar to the other granulomas. These reports contain examples of the localization of the *Sporotrichium* in muscles, joints, bones, kidney, lung, etc., the organism being recovered from the blood-stream by the usual methods of blood culture.

It would seem highly probable, therefore, that sporotrichosis is a widespread prevalent disease, particularly in the country and farming districts, and that many unhealed chronic ulcerative processes now passing under the caption tuberculosis, syphilis, glanders, blastomycosis, actinomycosis, etc., are in fact unrecognized sporotrichosis.

In the belief that with greater familiarity with the clinical picture will come earlier and more general recognition of the disease, I present this paper; for it is my conviction that the history of the development of sporotrichosis will parallel that of actinomycosis and blastomycosis as soon as the attention of the profession, particularly those practicing in the farming districts, is directed to the infection. In this connection it is interesting to note that in 1910, following R. L. Sutton's report from Kansas, eleven cases, or nearly one-third of all those reported in this country, were published from the same state during the succeeding twelve months.

#### REPORT OF A CASE OF SPOROTRICHOSIS.

History.—In January, 1910, C. A., aged 28 years, a native of Wisconsin, journeyed to Cresbard, S. D., to engage in farming. In October of the same year, after nine months' residence in the state, he noticed a small "pimple" on the calf of his right leg. He remembered no preceding trauma and believed there had been none. He described the lesion as a small, firm nodule about the size of a split pea, lying beneath the skin surface. In the course of the following week two similar nodes appeared immediately above the first. These small tumors gradually became harder and larger and ultimately, in six or eight weeks, softened and broke down, discharging a small quantity of viscid, bloody pus.

On consulting his physician, he was told he had probably contracted glanders, although as far as could be ascertained there was no evidence of this disease among the horses on his farm. ,

Within the succeeding few weeks several more nodules, exactly similar in character and in a direct line above the others, appeared. During December and January the disease gradually traveled up the leg, along the inner aspect of the thigh in a line corresponding to the course of the deep lymphatics, the nodules beginning deep in the subcutaneous tissues, becoming larger and softer as they approached the skin surface and then breaking down to form deep necrotic foul-looking ulcers. There was no subjective pain, little if any tenderness to pressure, no febrile reaction and no constitutional disturbance.

The patient entered the service of Dr. Bevan at the Presbyterian Hospital, January 31, 1911. The appearance of the leg at that time is best given in the words of the hospital history. "On the posterior surface of the calf of the leg (right) beginning about half way between the ankle and knee and running upward, are a series of slightly elevated, sharply defined, deep red areas, about the size of a dollar. These bleed readily when injured. On the posterior side of the knee just over the tendons of the semimembranosus and semitendinosus muscles are two or three nodules which are not so large as those mentioned above but are more elevated or dome shaped. From these a bloody serum is discharging. Farther up on the inner anterior part of the thigh are three nodules which can be felt under the skin as hard lumps the size of hickory nuts. In all there are nine nodules making a straight series from the middle of the calf running toward the groin."

On entrance, his appearance was that of a robust, well developed, well-nourished young man. Except for the leg lesions there was no evidence of organic disease. His temperature was 98 F.; leukocytes 8,900, hemoglobin 84 per cent (Dare); urine negative. He complained of slight tenderness on pressure over the lesions on his leg, but of no subjective pain. He was isolated and placed under infectious precautions.

February 2, Dr. Bevan incised one of the unopened nodules, allowing a small quantity of greenish-gray, blood-streaked, slightly viscid pus to escape. Cultures and smears were prepared, and a portion of the pus obtained in an aspirating syringe for animal inoculation. The culture tubes at the end of the fourth day appeared sterile. Subcutaneous and intraperitoneal injections of the pus into male guinea pigs produced no orchitis. At this time the probable clinical diagnosis of sporotrichosis was made.

February 10, eight days after inoculation, an agar-slant tube showed a single, small, slightly elevated, gray-white colony, which on examination proved to be a pure culture of sporothrix.



The patient remained in the hospital until March 6, during which time the curetted and phenolized areas under dry iodoform dressing became covered with granulation tissue and gradually healed. March 18 he returned to the hospital for examination. The areas were covered with newly formed scar tissue and crusts, underneath which were some bluish discoloration and induration. The patient was placed on potassium iodid for the first time, 10 grains three times daily.

The laboratory study of the organism showed it to be identical with the sporothrix described first by Schenck in 1898, by Hektoen and Perkins in 1900, and by Hyde and Davis in 1910, its cultural characteristics, morphology, results of animal inoculation, etc., agreeing closely with the excellent description in the report of Hyde and Davis.

**Sporotrichosis in America.** As the result of a rather careful search through the American literature, I have found that twenty-eight cases (including the present one) of undoubted sporotrichosis (as proved by positive cultures of the organism) have been reported during the thirteen years following Schenck's original publication. In addition, I have collected thirty cases of highly probable sporotrichosis, cases clinically identical with the twenty-eight positive cases, but without positive cultures.

A summary of the findings in these cases is as follows:

**Geographic Description.** Fourteen states are represented\* from various localities in the United States, divided as follows: North Dakota, twenty-two cases; Kansas, thirteen; Nebraska, five; Illinois, two; Missouri, three; New York, two; Minnesota, two; California, one; Iowa, one; Indiana, one; New Jersey, one; South Dakota, three; Montana, one; Wisconsin, one; total, fifty-eight cases.

**Sex.** In the reports in which sex is mentioned, there were thirty-two males and twenty-one females.

**Age.** All ages are represented, the youngest patient being 3 years, the oldest 70; twenty-seven cases occurred in persons between the ages of 15 and 45.

**Occupation.** Infections occurred in farmers and farmers' children fifteen times; in florists, two times; once each in an ironworker, a berry-

picker, an express company packer, a laborer, a housewife, a schoolteacher, a potato-peeler, a woodman and a soldier.

**Seat of Primary Infection.**—Back of hand five times; index finger, four times; palm of hand, twice; thumb, twice; once each in wrist, arm, thigh, anterior surface of leg, knee and calf.

**Trauma.** Occurrence of preceding trauma is mentioned nine times; no history of trauma in nine cases; of the nine cases mentioning trauma, two were caused by nails; two by wire; one each by hen bite, blow by hammer, disk harrow and knife.

**Duration of Disease.** From three weeks to eighteen months.

**Diagnosis.** The features which are helpful in the differential diagnosis of sporotrichosis may be grouped as follows:

**Clinical.** The occurrence in men between the ages of 15 and 45, in the country and farming districts (but also in the cities).

The occurrence in farmers, fruit and vegetable dealers, berry-pickers, florists, etc.

A history of preceding trauma by nails, wire, knife, hammer, bites of animals (rat, hen), pin-prick, etc.

The slow period of incubation, following the initial trauma; the insidious onset and slowly progressing course; the slow ascending infection following the course of the deep lymphatics.

The production of characteristic small, round, hard, subcutaneous nodules, and their uniform evolution into softened cold abscesses or cutaneous ulcers.

The long-drawn-out clinical course of the disease, with little or no pain or temperature and little or no effect on the general health.

**Laboratory.**—The local and general eosinophilia. The presence of eosinophils in the nodules has already been mentioned. In addition, eosinophils have been noted in the initial chancre, in the pus from the broken down nodules and in the circulating blood of experimental animals, as well as clinically. It will be of great clinical interest, therefore, to see whether more extended observations will show the eosinophilia in sporotrichosis to be of diagnostic importance.

The cultivation of the organism on artificial mediums, the growth of *Sporotrichium*, being characterized by its slow initial appearance; its

\*This probably does not indicate the relative frequency of the disease, for, as already mentioned, eleven of the twelve Kansas cases were reported in the twelve months immediately following the report of the first Kansas case by Sutton.

ready growth on 2 per cent. glucose agar at room or incubator temperature; its raised corrugated appearance on slant agar and its radiating, flowerlike appearance in stab culture; its brownish-black pigment production in old cultures and on 4 per cent. glucose agar; its branching septate mycelium and pear-shaped spores.

*Treatment.* Treatment is well summed up in Beurmann's words as follows: "Potassium iodid should be administered internally in increasing doses as high as 6 gms. a day and even more, and the local lesions should be dressed with a weak iodi-iodid solution; water, 500 gm.; potassium iodid, 10 gm.; iodine, 1 gm. Finally, the ulcerated points should be cauterized with tincture of iodine. The prolongation of general treatment for a month after complete, apparent recovery is indispensable to prevent relapse and recurrences."

*Distribution of Cases in the United States.* Ruediger makes the interesting observation that five-sixths of all the cases reported from the United States occurred in a limited strip of territory along the Missouri river, and that not a single case of the 22 reported from North Dakota was found outside of the Missouri valley. This is also true of the Kansas cases.

*Occurrence in Lower Animals.* In the case reported by Hyde & Davis, they considered the relationship of sporotrichosis in man and mycotic lymphangitis in horses. They concluded from a comparison of the sporothrix obtained from their patient and an organism obtained from the Bureau of Animal Industry, Washington, D. C. (which was originally isolated from a horse suffering with mycotic lymphangitis in Pennsylvania) that the two organisms are identical and that some of the American cases of mycotic lymphangitis or epizootic lymphangitis in horses are due to the presence of the *Sporotrichium Schenckii* and should be described as instances of Sporotrichosis.

Page, Frothingham and Paige came to the same conclusion, likewise isolating an organism identical with the human *sporotrichium* from horses in western Pennsylvania afflicted with lymphangitis epizootica. This organism is totally unlike the *Saccharomyces farciminosus* of Tokishiga and Pallin, isolated from horses, suf-

fering with mycotic lymphangitis in Japan and India.

In addition to the horse, spontaneous sporotrichosis has been described in the mule, dog, rat and gopher (?) while the mouse, guinea-pig and monkey lend themselves to laboratory inoculation.

*Probable source of Infection in Man.* Beurman and Gougerot compile the following observations regarding the etiology and pathogenesis of sporotrichosis.

It is met with in a saprophytic state in nature as has been proved by the discovery of two specimens growing wild in the French Alps. It vegetates on living or dead vegetables, bark, thorns, potato, various grains, etc. Any object soiled with vegetable debris may inoculate sporotrichosis. It may be inoculated by the bite of a rat; by slight traumas of infected instruments, by the eating of infected food, green vegetables, berries, fruit; by abrasions of the mucous membranes of the mouth and pharynx.

### THREE SCORE YEARS AND TEN—AND AFTER.\*

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"Life, as well as other things, hath its bounds assigned by nature, and its conclusions, like the last act of a play, is old age."—*Spectator*.

"Old age hath yet his honor and his toil."—*Tennyson's Ulysses*.

Dr. Oliver Wendell Holmes once said that, "We are all sentenced to capital punishment for the crime of living."

Admitting the truth of Dr. Holmes' statement one instinctively asks the question, "How long can the execution of this death sentence be postponed?"

This question was in effect answered three thousand years ago when the Psalmist said, "The days of our years are three score years and ten." And since that date in the long, long past a thoughtless world has been disposed to regard the man of seventy as hanging over the verge of his grave.

But notwithstanding this popular action a little care must convince the observer that ad-

*Note:* The complete bibliography may be found in the article in the *Journal A. M. A.*, already referred to, and has, therefore, been omitted from this paper.

\*Read at the sixty-third annual meeting of the Illinois State Medical Society at Peoria, May 22, 1913.



vanced age is not always accompanied by senility and likewise that youthfulness in years is not at all times attended with youthfulness in bodily conditions. For illustration, Gladstone at the age of eighty-five, to the satisfaction of all concerned, discharged the arduous and important duties connected with the post of Prime Minister of England—a position that has often taxed the physical and mental powers of a man forty years younger.

In contrast to the case of Gladstone was that of Louis II of Hungary, who succeeded to the throne at the age of ten, grew a full beard at fourteen, married at fifteen, turned gray at eighteen, and died of senility and decrepitude at twenty.

Thomas Parr, an English peasant of three hundred years ago, lived to the great age of one hundred and fifty-two years, and after his death his body was examined by the renowned Dr. Wm. Harvey, discoverer of the circulation of the blood. Much to the surprise of Dr. Harvey not a few of Parr's tissues were found to be as well preserved as those of a man of middle age and furthermore his costal cartilages were pliant and elastic.

Contrarywise, Hufeland speaks of making a post-mortem on a man of forty whose hair was white and whose costal cartilages were hardened and ossified.

However, in the great majority of instances, the human machine is destined to wear out and break down long before the hundredth mile-post is reached.

When does the average individual begin to grow old? Some one has said that when in walking a man is always turning around to look back; when, moreover, he turns his toes out, and finally when he treads upon the whole of the sole of his foot, he is already old. It is said an experienced boot-black can tell a man's approximate age by the condition of his shoe-leather.

John G. Saxe, a popular poet of fifty years ago, put some of the signs of approaching age in rhyme:

"My growing love for easy shoes,  
My growing hate of crowds and noise,  
My growing fear of taking cold,  
All tell in plainest voice,  
I'm growing old.

"I'm growing fonder of my staff,  
I'm growing dimmer in my eyes,  
I'm growing fainter in my laugh,  
I'm growing careless in my dress,  
I'm growing wise, I'm growing—yes—  
I'm growing old."

The pathology of old age is a most inviting field but limitation of time will permit us to spend only a very few minutes in its exploitation. Consequently we shall not be permitted to wander far afield, however tempting are some of the paths that open up before us.

In addition to such well-known foot-prints of time as thinning and graying of the hair, wrinkling of the skin, loss of teeth and dimness of vision there are certain other manifestations of the flight of years not so obvious to the lay observer.

One of the most important of these is hardening of the arteries. Indeed, so characteristic is this condition of old age that Cazalius, a famous French physician of two generations ago, said, "A man is as old as his arteries."

Measured by the standard of Cazalius a man of sixty with relatively soft arteries is really younger than another man of forty whose blood vessels are for some reason hard and calcareous. However, the rule is the older the man the harder and more inelastic are his arteries which in consequence are no longer in condition to be classed as vital rubber. In such vessels thromboses and embolic plugs are liable to form with the result of blocking the circulation and possibly causing senile gangrene, apoplexy and softening of the brain.

To force the blood through these hard, inelastic arteries puts extra work on the vital force-pump of the body and to meet this increased demand the heart enlarges and for a time performs its function in a fairly satisfactory manner. But after awhile the hypertrophy ceases to be compensatory, the walls of the ventricles become thin, dilatation with valve-leakage follows, and finally yet more serious conditions result that only end when the patient is in his grave.

With the coming of advanced age fibroid tissue develops in undue amount and displacing normal structure is found to a greater or less extent in all the organs. This over-development of fibroid tissue and its deposit in abundant amount

throughout the body is termed fibrosis. And, according to the late Dr. Arthur V. Meigs, "fibrosis is as inevitable to old age as is wrinkling of the skin."

This superabundant fibroid tissue is especially liable to inflammation and hence one of the sources of the many diseases of advanced life.

As one advances in years and the fibroid tissue in the body increases in amount it crowds upon the air vesicles and capillaries of the lungs and thus results serious impairment of the important function of one of the vital organs of the body. The magnitude of this impairment is indicated in the following figures: In round numbers, a man in his prime exhales 1,300 cubic inches of carbon dioxide every hour. Between sixty and eighty the amount falls to 900 cubic inches. And finally, in extreme old age, it drops to the low average of 600 cubic inches of carbon dioxide exhaled per hour.

As with the lungs so with the liver, so with the kidneys and, indeed, so with every organ and structure in the body, fibroid material displaces, or replaces normal tissue and there results general deterioration of structure and corresponding impairment of function. So impressed was Dr. Arthur V. Meigs with the power of fibrosis to produce senility that he said, "fibrosis is old age."

Dr. Arnold Lorand, a well known Austrian physician, believes that senility is in many instances the result of inefficient action of the ductless glands and more especially of the thyroid. He thinks a degenerated and consequently an ill-acting thyroid gland is frequently to blame when old-age conditions appear prematurely. Finally he goes so far as to say, "A man is as old as his thyroid," rather than as old as his arteries, as was said by Cazalius three-quarters of a century ago.

The postponement and banishment of old age has been the dream of mankind for thousands of years. The old-time alchemists spent many long, toilsome days in a fruitless search for the philosopher's stone, which it was confidently believed would on the one hand, transmute iron into gold, and on the other transform the old man into a youth.

Cagliostro, a famous quack of the 18th century, boasted that he had discovered an elixir

of life that had already prolonged his stay on earth for thousands of years.

Every school boy is familiar with the story of Ponce de Leon, the famous Spaniard of four hundred years ago, who came to the New World with his companions and spent much time and endured great hardship in search of a spring called the Fountain of Youth, because it was said that of those who bathed in its magical waters the young would never grow old and the old would be restored to eternal youth.

Elie Metchnikoff, the celebrated Russian scientist, who has been in charge of the Pasteur Institute at Paris since the death of its illustrious founder, has given much attention to the possibility of prolonging life and for this reason he is sometimes called the Ponce de Leon of this age.

After much research and a great deal of thought devoted to the subject, Metchnikoff has reached the conclusion that certain deleterious substances absorbed from the large intestine induce a slow form of poisoning that finally results in the production of senility. And here it may be said that of the large bowel in man Metchnikoff does not seem to have a very high opinion. He calls it an asylum for housing harmful microbes, a reservoir for storing the vilest waste-products, and seems in every way to think it should be relegated to the junk pile.

He cites instances where individuals have lived comfortably without it for many years, and intimates that when evolution shall have had time to work its way, man's large intestine will be eliminated and done away with as a worse than useless organ. From the foregoing we are led to infer that Metchnikoff believes the shorter a man's big bowel the longer will be his life. Why? because there is less space to harbor harmful microbes, less space for deleterious matter to be stored in, and finally less absorbing surface for the intake of poisonous substances.

The most powerful and dangerous of the intestinal poisons are indol and phenol, produced by the decomposition of albuminoid substances in the large bowel. In a series of experiments conducted at the Pasteur Institute it was demonstrated that when phenol and indol are administered to guinea pigs, rabbits and monkeys for a considerable period, certain symptoms characteristic of senility result. Among these are



hardening of the liver, degeneration of the arteries and alteration of the brain structure. Becoming convinced that indol and phenol are important factors in producing senility, Metchnikoff began casting about for something that would prevent their formation in the large intestine and finally found that lactic acid would do this. And, furthermore, after a good deal of experimenting he came to the conclusion that sour milk is the best form for the administration of lactic acid. He also found that butter-milk, cheese, cottage cheese, clabber, koumis and kefir, and indeed all the products of the acid bacillus, are to a greater or less degree useful in preventing the decomposition of albuminoids in the large bowel and correspondingly inhibit the production of those dangerous intestinal poisons, indol and phenol.

Metchnikoff believes that the well-known longevity of the Bulgarians is in no small measure due to the large amount of sour milk that enters into their daily diet.

Finally, Metchnikoff has some interesting notions pertaining to the mechanism of senility. He believes that the phagocytes after defending a man's body against the invasion of deadly microbes for many years, finally become traitors and turn upon their host in his old age and attack him viciously.

These traitorous phagocytes have received various names. Those that attack the hair and cause it to turn gray are chromophags. Those that attack the higher nerve cells and produce atrophy of the brain are neuronophags. Those that destroy the muscles and undermine tissue generally are the macrophags. And, finally, the phagocytes that attack and, so to speak, suck from bone its lime salts are the osteoclasts.

The lime salts thus absorbed from bone and taken up by the circulation and deposited in various organs, structures and, more especially, in the arteries, become typical examples of matter out of place. For the lime salt that was an unmixed benefit and blessing in the old man's femur becomes a handieap and unmitigated curse when transferred to his aorta. The heartless criminals that work all this ruin and havoc in the old man's body are the traitorous phagocytes, otherwise called osteoclasts.

Someone has said that old age is the one thing

that everyone wants and that no one likes after he has gotten it.

Crates, an ancient poet and contemporary of Hippocrates, put this thought in rhyme:

"Age then we all prefer: for age we pray:

And travel on to life's last lingering day,

Then sinking slowing down from bad to worse

Find Heaven's extorted boon a curse."

A Greek writer cynically declared, "That nothing could be added to the curse of age but that it be extended beyond its natural limits."

On the other hand no little has been said in praise of old age. Flourens, a celebrated French physiologist of the last century, said, "We can not grow old without losing our physique and without our morale growing better."

Sharon Turner, an English historian of a hundred years ago, said, "Old age in any moderate degree of health and efficiency, is the finest and most approved state of the human mind, and is in the most favorable circumstances for self improvement and if it be intellectually and morally employed, and in every class it may, it will be the happiest and most ameliorated condition which human nature can experience."

Among writers who have pictured old age in more or less attractive colors is Cicero, whose essay on senectitude has been a classic for two thousand years. Two hundred years ago Addison and Steele in the *Spectator* had no little to say in praise of the intellectual and moral aspect of old age. A little later Dr. Samuel Johnson in the *Rambler* treated the subject from the same standpoint and in much the same spirit. Finally, our own Dr. Oliver Wendell Holmes, in his "Over the Teacups," has a good deal to say of old age and says it in his always incisive and interesting way.

The average length of human life is increasing. In the 17th century there was a gain of four years. In the 18th century the gain was four years. But in the first three-quarters of the 19th century it was nine years. What it will be in the one hundred years from 1875 to 1975 we can only conjecture. However, the gain can not fail to be a large one, for the world-wide movement for better health conditions, from which we are now deriving so much benefit, had its inception in the last third of the 19th century, and this can not fail to have a marked influence in

prolonging human life. Indeed, in my judgment fifty years from now centenarians will be as common and as well preserved physically as are persons of eighty-five today.

So far as I have been able to learn no member of the Illinois State Medical Society has reached his hundredth mile-post, though Dr. F. R. Pitner of Clay County lacked only twelve days of reaching his. So well was Dr. F. R. Pitner preserved that it is said he practiced his profession till after he was ninety.

Dr. Robert Boal was another member of this society who approached his hundredth mile-post. He was one of the founders of the Illinois State Medical Society, practiced his profession for more than sixty years, served several terms in the state legislature, held several positions of trust and honor and was furthermore an intimate and lifelong friend of Abraham Lincoln.

Dr. Boal acquired to perfection the rare art of "growing old gracefully," and for years he was in the truest sense one of our "Grand Old Men."

Some authorities believe that centenarians are very much fewer than they are popularly supposed to be. However, the ages of some of them are unquestionable. The records of the United States Pension office show that Daniel F. Bakeman, a soldier of the War of the Revolution, died at Freedom, N. Y., in 1869, aged one hundred and nine years. The last survivor of the war of 1812 was Hiram Cronk of Ava, N. Y., who died at the age of one hundred and five years in 1905.

The 1910 U. S. Census reports the finding of 3,555 centenarians in Continental America. In round numbers this is one centenarian in each 26,000 inhabitants. But, strange to say, of this total of 3,555 centenarians, no less than 2,500 are negroes. And as the negroes compose only about one-ninth of our population there would seem to be one negro centenarian in each 4,000 of that race. While among the whites there is but one centenarian in a total of 80,000. The explanation of this apparently wide variance in the longevity of the two races is the fact that the reported ages of old negroes are notoriously unreliable. On the other hand it must be admitted that the simple and regular life of most of the negroes in slavery days was conducive to longevity.

What can a man do to prolong his life? How can old age be deferred? Before answering these

inquiries let us for a moment very briefly revert to some of the causes of old age. As we have seen Cazalius said "a man is as old as his arteries." Dr. Arthur V. Meigs said, in effect, that a man is old in proportion to the amount of morbid fibroid material in his body. Lorand says a man is as old as his thyroid gland. Metchnikoff virtually says that the length of a man's life is in inverse ratio to the length of his large intestine. And finally some wicked epigrammatist has said that "a man is as old as he feels and a woman is as old as she looks."

Admitting that there is some truth in what all these men say how can we profit by their ideas and suggestions?

To begin with how can we prevent hardening of the arteries? In a general way by avoiding excesses, especially in the use of tobacco and alcohol.

How can a man keep his thyroid gland up to normal? By avoiding infectious diseases and especially by avoiding the worst one among them, syphilis.

How can auto-infection from the large intestine be prevented. Metchnikoff says by the constant use of sour milk as a daily article of diet, and no doubt a great aid to this is the avoidance of constipation.

Finally, if it is true that one is as old as one feels it is both one's privilege and duty to feel and keep as young as possible.

"We are completely surrounded," says Hufeland, "by the friends and enemies of life. He who keeps company with its friends will become old, but he who prefers its enemies will shorten his existence."

What are some of the friends and what are some of the enemies of life? Among its friends I would name cheerfulness, contentment, moderation, temperance, simplicity. And among its enemies I would enumerate worry, overwork, gluttony, drunkenness, fast living and excesses of all kinds.

Would you reach a green old age? Then keep busy, keep sweet, keep a good conscience and, keep the bowels open. Forget your troubles, forget your enemy, forget yourself, but never, never forget your friend. Be patient, be industrious, be cheery, be an optimist, be moderate in all things. Take exercise, but take it in modera-



tion. Eat good food but eat it in moderation. If you use tobacco, use it in moderation. If you use alcohol, use it in moderation. In a word live temperately, live kindly, live simply, live friendly, live rightly. And finally,

"So live that when thy summons comes to join  
The innumerable caravan which moves  
To that mysterious realm, where each shall take  
His chamber in the silent halls of death,  
Thou go not like the quarry-slave at night,  
Scourged to his dungeon, but, sustained and  
soothed

By an unfaltering trust, approach thy grave  
Like one who wraps the drapery of his couch  
About him, and lies down to pleasant dreams."

### THE COUNTY SOCIETY BULLETIN

E. W. FIEGENBAUM, M. D.  
EDWARDSVILLE, ILL.

It is the province of every newspaper to gather and distribute the news of the locality in which it is published and the value of the paper is measured by the amount and accuracy of the news it contains. It chronicles the joys and the sorrows of the people, their comings and goings, and tells of the constant changes that are occurring in that particular locality. So accustomed have we become to looking for our daily newspaper to learn the news of the day, both domestic and foreign, that its absence is at once noted and we feel that something has been missed.

Another, and as we believe, a more important function of a newspaper, is to present to its readers and discuss passing events, public improvements, political conditions or anything in which the people of that locality are vitally interested. In short to fulfill its highest obligation a newspaper, through its publications, editorially or otherwise, should so conduct its columns as to mold public opinion upon all things that make for the uplift of all the people in that community.

Now, as we see it, the nearer we can make the county society bulletin conform to the standard as outlined above, the more it will fulfill its highest mission. In its news columns everything that happens to any doctor in the county

ought to be chronicled; his comings and his goings; his joys and his woes; his good fortune and his reverses, so long as these are of interest to his fellow-workers. A distinct line however, ought to be drawn and maintained, between that which is purely personal and that which is professional. If he builds or buys a new house, if he buys a new car, if he is fortunate enough to afford a vacation, all of this should be told to his fellow members. Not a word, however, should appear concerning his professional work, be it ever so brilliant, for the bulletin is a booster for the whole profession and not for any individual member.

We do not believe that the county bulletin is the proper place for the publication of highly scientific articles or reports of clinical research, for the reason that the space is limited, and for the further reason that such articles deserve wider publicity than the limited circulation of any bulletin can offer.

These articles ought to appear in the *ILLINOIS MEDICAL JOURNAL* or in the *Journal A. M. A.*, which is a veritable gold mine for the average practitioner, even if it does sometimes contain articles which, as our friend from California says, are "like the love of God that passeth all understanding."

A county bulletin fails of its prime mission if it does not mold the professional opinion of its readers on the various steps in medical progress. In its columns the new inventions, new methods of treatment, in fact the general trend of medicine and surgery, can be presented and discussed. Short editorials, snappy discussions of matters appertaining to public policy, matters that define our relation to the general public both in a private and professional way, on all public questions, can be debated, striving at all times to crystallize the sentiment of the profession on all vital issues. Valuable information as it affects our calling can be brought to the attention of the reader once a month, and many valuable ideas can be secured by the perusal of the various bulletins now published in the state. The constant reader of his local bulletin becomes broader in his views, obtains a different viewpoint, sees himself as others see him, becomes more tolerant of the mistakes of others, realizing that he is only one in the great

\*Read at the County Secretaries' Conference at Peoria, May 20, 1913.

body of the profession, which after all is composed of men who are pretty much all alike.

But the greatest mission of the bulletin, as we see it, is to act as a great humanizer. It brings the physicians of the county into contact with each other. Through its columns the reader becomes acquainted with the names and locations of all the physicians of the county, and very soon he realizes that his circle of friends has been extended, even before there has been a formal and personal interview. It teaches him that there are others leading the same life, meeting the same problems, overcoming the same obstacles and he at once learns the lesson of the great fatherhood of God and the brotherhood of man.

The Madison County Medical Society has been trying to publish "The Madison County Doctor" for the last three years along the lines laid down above. How well it has succeeded can only be told by its readers. We have tried to make it bright and newsy, faithfully telling the story of the doctors of our county month by month. Little items of information, gleaned from current medical literature, and discussions of questions that make for the betterment of the average medical man, have been presented. It has been the aim of our little publication to impress upon its readers the necessity of fitting themselves for leadership in the great battle for the public weal, to fight every enemy that threatens destruction to our people. It brings to their attention the necessity of concerted action, if any good is to be accomplished. It aims to emphasize the utter folly of bitterness and strife, and to teach the lesson that only by combination of forces can great results be brought about.

Our publication so far has met with the approval and received the commendation of our members and we do not believe there is one in our society who would willingly dispense with this little monthly visitor. Approval has not been limited to our membership, but favorable notice has come to us from outside the county and state, all of which is thoroughly appreciated. The latest born bulletin of our state, "The Knox Medic," has some very nice things to say about bulletins in general, but takes a fling at us when it says that Fiegenbaum is "never so happy as when rounding a philosophic article with a bit of poetry." Now

as to the philosophy, we plead not guilty, for any one acquainted with your speaker knows that he is utterly devoid of any philosophic ideas, and could not write such an article if he tried ever so hard. As to the poetry we must plead guilty to the soft impeachment, but offer in extenuation that only the poetic efforts of others are always used; our own poetry, like the old maid's husband, having been killed in the civil war. It is true, when we find a little poem, some little gem in verse that quickens the pulse, that gives a clearer outlook on life, that contains the elements of higher and better things, we cannot resist the temptation to pass it along to our fellow workers; we simply print it among a mass of other things, somewhat upon the principle of giving a stick of candy to the baby, after giving it a dose of quinine. Somehow our people seem to relish it.

And now what are the end results? After three years of our little sheet we find our society larger than ever, receiving new members at almost every meeting. We now have over 100 members and include in our ranks, with the exception of three or four, every eligible doctor in the county. We have changed from quarterly meetings with an attendance of eight or ten, to monthly meetings with from 20 to 35 present. The scientific work is growing better and the papers and discussions are becoming more valuable. Acquaintance has been extended, friendships have been cemented and a spirit of harmony and good will has been generated to a marked degree. The gentle dove of peace is circling over our prairies and some of these days she is going to light. Now all of this can not be ascribed to our bulletin but without doubt the greater part of it must be credited to its influence. It has made the hand-clasp firmer, the "Hello, Bill" and the hand on the shoulder more hearty, it has made us realize that the other fellow exists and to recognize his right to existence. In short, it has sent us all home and to our desks, there to learn this lesson:

I see from my house by the side of the road,  
By the side of the highway of life,  
The men who press on with the ardor of hope,  
The men who are faint with the strife,  
But I turn not away from their smiles or their  
tears,



Both parts of an infinite plan.  
 Let me live in a house by the side of the road  
 And be a friend to man.

### ORGANIZATION.\*

L. H. A. NICKERSON, M. D.,

QUINCY

President Illinois State Medical Society.

As the county society is the unit and the basis of the state society and the American Medical Association, it is but fair to say that the county society should receive our earnest attention, always seeking to build it to the highest point of perfection, both as to number and quality. If the county society is a success, it will raise the standard of the state society, and in turn, the standard of the American Medical Association.

As individuals, we should remember that we owe something to the profession. Don't get it into your head that you are a non-entity, but do your might in perfecting this grand organization, so when your race is run, it may be truly said of you, that you had been not only a good citizen, but a loyal physician, who had done his duty by giving his influence and support to an organization that stands for the good of humanity. Don't belittle yourself by thinking that you can be of but little value and importance to the whole.

To illustrate:—This great republic owes its present position and standing among the nations of the world to its first organization known as the Colonial Congress. Among the number were four physicians. Their work was well done in giving to the world the Declaration of Independence, from which has sprung the strongest and richest nation among the nations. The United States, during the past quarter of a century, has become one of the greatest of the industrial centers, due in a great measure to organization. Look at the success of the railroads, locomotive works, car builders, steel works, flour mills, telephone and telegraph companies. If these industrial companies have become so successful by organization, why should not the doctors measure success by the same methods? What combination and organization have done for business and industrial success, can surely be accomplished by the medical profession.

Gentlemen, show me a county where there is a well organized medical society and I will show you a lot of physicians who are respected, influential, and a power in their community. They are well paid, well fed and well clothed; they get along harmoniously, and each physician is considered a pretty good fellow by his co-workers. They are sought after in public health matters; bickering and jealousy are reduced to the minimum. The county society is of the first importance because it enables the medical men of the county to get together, to become acquainted to get on speaking terms, to exchange views, gain knowledge and learn what may be needed for the betterment of the profession. Fault finding and lying patients are often the cause of unfriendliness and at times of open hostility among medical men. Isn't it a fact that college boys and men are the chummiest and best in the world? Why should it be different, when they go out to practice a chosen profession?

Of course, the pursuit of renown and gain often brings out all the latent selfishness in a man's nature, but does it pay to let the baser instincts dominate and mar his happiness? Nothing is ever gained by bickering and fighting your brother practitioner. "There is so much that is bad in the best of us, and so much that is good in the worst of us, that it doesn't behoove any of us to say anything about the rest of us." Have you a physician in your county who is inclined to treat the other members of the profession unfairly and do things that you consider unethical? Bring him into your society; surround him with good fellowship; heap coals of fire upon his head; call him into consultation, give him to understand that you are the one who is doing the calling; pay him for consultation, and tell him you will let him know how the patient is progressing. You will soon find the doctor acting differently toward you, and in nine cases out of ten, he will go out of his way to do the fair thing. You simply have to brush up against him to know his good qualities. He will often prove that he is as high mentally as yourself, and one with whom it is a pleasure to associate.

By cooperating, you can raise fees to a fair standard for medical and surgical services. There is little to be said against cooperation but much for such action by your society. Business men

\*Read at the County Secretaries' Conference, Peoria, Ill., May 20, 1913.

and labor unions get together to protect themselves against unfair competition or other conditions working to the detriment of their financial interest. Why should the medical men be adverse to combining to protect themselves and families against the lodge doctors, the quack, the fakir, the patent medicine interest, the drug counter prescriber and other ilk.

By organization and combination, you should be able to strangle the lodge doctor, which is only a stepping stone to an insurance act, similar to the one now in force in England. The substance of this act is, that the physician obligates himself to attend members at so much per capita (\$2.50 per year), receiving for each call, including medicine, the magnificent sum of twenty-five cents. It is degrading to have one of your members constantly cutting down the fees, or acting as a lodge physician, thereby lowering the standard of your services. Those engaged in this work will soon see their mistakes and will come around to do what is right.

Because one is so low as to engage in this work, is no reason why another should follow in his tactics to secure work. By cooperation, you can raise the standard of medical education, secure good public health legislation, and have efficient medical men appointed as public health officers. With a perfect organization and higher education the osteopathic and other cult boards will be a thing of the past.

Physicians will often lose their first enthusiasm in your society if you do not continuously give them something to do. Keep them at work; systematic work will interest your members and bring out a full attendance. Lay out your work one year in advance, always sending out advance notices of your meetings in neat printed form. Get your laggards down on your program for papers, give them the habit, which, once formed, will make them enthusiastic in the work of the society. At your annual election for officers, see that you get a good man for secretary, as on this officer, to a great degree, depends the regular attendance of the members, which means much for the success of the county society.

After securing a good secretary, encourage him to his work, keep him in office; he need not be the brainiest man in the county, but one who is well liked and respected. The average physi-

cian is a bit careless in attendance and needs stirring up and frequent reminders to get him out. Much of this work will fall on the secretary. He is the one to get up an attractive program and smooth over any little friction that may occur among the members. Hold your meetings regularly at stated periods at least once a month, and at central points, preferably at the county seat. In some counties it is well to often change the place of meeting. In this way you are more likely to have a full attendance. Arrange to have dinner together, with an after dinner cigar; then you will get well acquainted and have a better opinion of each other.

Let one meeting of the year be set aside for an outing with your families, near a lake, river bank, or in a park. It is a good plan to invite your friends, the lawyers, to be with you at this outing and have a friendly contest in out-door games, such as baseball, etc. Then again, it is a mighty good plan to have your home talent on their feet to do the talking at your meetings on simple subjects, as summer complaints, etc. It is well once a year to have a talented specialist from one of the medical centers. He can be had without expense for the asking; and is always glad to come out and spend the day with you. Remember the county society is the unit of the organized medical profession,—The American Medical Association; as the county society is a success, the organized profession is raised to a higher level and becomes a most important factor in all medical legislation proposed for the good of the public.

On the roll of membership of the state society are over 5,600 names, while in the state, there are over 10,000 registered physicians. We should have at least 85 per cent of this number in the State Medical Society. The county medical society is the key to solve this condition.

I would suggest that once a year the secretary of the county society read off the names in the society, of those registered physicians who are not on your roll, and as the names are read off, any member who is well acquainted with any name as read, might volunteer to see him, and then appoint a special committee to interview others who may be eligible.

Make it clear from a financial point of view that it will pay them to join your society. Tell them they will receive the ILLINOIS MEDICAL



JOURNAL (a first class medical periodical) free, and a legal defense that will not cost them a cent in case some disappointed and disgruntled patient sues the physician for damages.

Every eligible physician of the state should be a member of a county society. It is the only portal to the state society and the American Medical Association. Another suggestion occurs to me; in the election of your delegate to the state society, send your secretary as his alternate, agreeing to pay transportation; it will reward him for his past work and encourage him to get up a better program and get out a fuller attendance at future meetings. He will always be on hand at the secretary's conference at the state meeting, and may represent your society in case of the absence of your regular elected delegate, and in this way, the county society will always be sure of getting a report of the workings of the state society. This report may be read at the next regular county society meeting and no doubt will prove to be very interesting to the members of your society. Nothing could be of more value to the members of a county society than to have a synopsis of the papers read at the state meeting. It is of vital importance that the state secretary be a man of high executive ability; he should be so qualified as to enable him to give an immediate answer to any inquiry. He should be prompt in his work and courteous on all occasions. He should cooperate with the secretaries of the component societies, councillors, and other officers for an effective and useful state society.

I have already spoken of the importance of the local secretary, and related how much depends upon this officer for the success of the society.

On the councillor is thrown more responsibility than on any other officer of the state organization. If each councillor would do his full duty as laid down in our By-laws, Chapter VIII, Sec. 2, we would have an organization that would be envied by all other associations. This office is an honor that should not be assumed by any physician who cannot or will not do his full duty. This officer should make the personal acquaintance of every local secretary in his district. His aim should be to bring each society under his jurisdiction to the highest point of perfection. He should study their defects and aim to remedy them. He should at least make one visit a year

to each society. He should keep a list of all eligible physicians in each county and make every effort to bring them into membership. In other words, each county society in his district should be considered as one of his children, and a part of his household. There is always one obstacle, the carelessness shown in answering correspondence. The officers of the society should set an example by promptness on their part in answering all communications on the day of their receipt. To have a first class organization, each officer should do his full share of the work. He owes it to himself and to all the members.

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#### MEDICAL ORGANIZATIONS—OLD AND NEW.\*

G. FRANK LYDSTON, M. D.  
CHICAGO.

*Mr. President and Members of the Will County Society:* I appreciate the honor of an invitation to address you as a sign that the times are changing. I doubt if, two years ago, it would have been possible to secure a down-state audience such as this to listen to arguments which suggest that certain conditions in the profession are not ideal. The fact that you yourselves selected the topic on which I am to speak, still more strongly suggests that the profession is awakening to a comprehension of the needs of the rank and file.

Medical organization has been the promised land of the profession time out of mind. The medical profession had been exploited so long by mining sharks, thieving promoters and real estate agents, that some of our brethren apparently resented the monopoly of the medical field by outsiders and themselves began exploiting the profession. And they have found us easy marks.

Which brings us to "The Crime of 1901"—the stealing of the A. M. A. from its members by a coterie of designing medical politicians. As to the professional histories of the chief factors in the robbery, they have been thoroughly and publicly aired and require no attention here. The A. M. A. apparently has decided that it cares nothing for such trifles so long as the money comes rolling in, and as the factors in question

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\*Abstract of address delivered by invitation before the Will County Medical Society, Joliet, Ill., Dec. 17, 1913.

are in the saddle, it would be too much to expect that they would unhorse themselves.

Now, as to what I believe to be the chief objections to the present organization of the A. M. A. Briefly, they are these:

1. We are conducting a large and profitable business under the false pretense of "a corporation not for profit."

2. The control of the association is not in the hands of the members, but is vested in the self-chosen few who are using the organization for their own selfish ends.

3. The political organization of the A. M. A. is unfair and constructively illegal from top to bottom. Illegal voting by non-members and the deprivation of the direct personal ballot are the chief objections to the system.

4. State societies, many of which, I am informed, are chartered by the several states, are held to be constituent bodies of a pretended national body which is chartered, not by the general government, but by the State of Illinois, therefore, there can be no legal union of the subordinate bodies with the so-called national body.

5. The association has developed an enormous business and is accumulating an enormous amount of wealth in which the creators, the rank and file of the association, never can participate under present conditions.

6. The columns of the *Journal* are not open to the members for the discussion of the policies and methods of the coterie in control of the A. M. A., but are used by these men for their own purposes, and especially to blind the membership to the true conditions in the organization.

7. The constitution and by-laws are loosely constructed and do not provide against multiple office holding, or for proper bonding of offices entailing great financial responsibility. They are, however, so constructed as to insure a self-perpetuating oligarchy.

8. The constitution and by-laws establish a privileged class—medical officers of the U. S. government are made active members without payment of dues—and provide for delegates from the army, navy, and marine hospital services, appointed by the heads of those services. Three arms of the government service, composed of men who do not pay dues, and which could by

no possible interpretation of the law be legally constituent bodies of the A. M. A. send appointed—not elected—delegates to the A. M. A. How can the non-contributing army, navy and marine hospital services of the U. S. legally be constituent bodies of a corporation chartered by the State of Illinois? A certain army officer was elected president of the A. M. A. some years ago, who had never paid dues in the association or previously taken any especially active interest in it. As to whether the medical officers of the government like the role of sponges on the A. M. A., that is beside the question, although worthy of an interrogation point. They at least stand for it.

9. The compulsory subscription to the *Journal* imposed on members of the A. M. A. prevents many excellent members of the profession from coming into the association. I think, also, that possibly is illegal, as the A. M. A. has distinctly ruled that the membership dues are \$1.00 per year. This point, however, will never be settled until somebody makes a test case of it in the courts.

10. The manner in which members of the A. M. A. moving from one state to another, are compelled to join the local society at their new place of residence, or forfeit membership in the A. M. A. is despotic. The fact that the local society is not compelled to take in the new member, matters not to the powers that be. No transfer cards are issued nor can they be issued. N. B. If the state and district societies are legally constituent bodies of the A. M. A., why cannot a member legally demand membership in the local society of the jurisdiction to which he moves?

The organizers and bosses of the A. M. A. must have a most peculiar system of reasoning.

Just a word as to the money end of the A. M. A. There is not a man in this room who knows just what we are heaping up money for, or can show that he or any other member of the rank and file is, or ever will be, benefited by the accumulation of wealth by the association. He gets what? Merely the privilege of contributing \$5.00 per year and sending delegates to the A. M. A. who are expected to be, and usually are, satisfactory to the ruling coterie of medical politicians.

A business of nearly one million dollars per



year and assets of probably \$1,000,000. For what? For whom?

Now, let us "get down to brass tacks." The membership should demand that a definite and logical purpose be declared for all this money-making and accumulation, which purpose shall benefit the individual members. Here are some suggestions:

1. Let us be honest, and change our charter to that of a "corporation for profit," and pay our tithes like good citizens. Then let the profits be returned to the members, who can subscribe to as much stock as their purses may buy. This might answer the question so many doctors ask. "How can I safely invest my little savings?"

2. Establish a life insurance or sick indemnity fund for the members.

3. Establish a fund for the relief of needy members and their families.

4. Build monuments for our illustrious dead, so woefully neglected by the people at large.

The first suggestion, perhaps, is most open to criticism, as being a purely commercial proposition, but it would be more logical and fairer than the present system. As to the political defects of the A. M. A. there is only one remedy—the popular ballot, and even this will be ineffective unless intelligently used. Whether or not the Supreme Court rules that the Appellate Court's decision to the effect that every member of the A. M. A. is entitled to a direct vote for trustees is in error, the members should still fight for the ballot, and there should be no "proxy" system. *Oil should be poured on the troubled association waters, but let it not be "Standard oil."* My contention as to the illegality of elections held outside of Illinois is aimed directly at securing the direct ballot. For the sake of the membership, I hope that the Supreme Court will sustain the decision of the court below. If the direct ballot is ever secured for the membership, the association will have been restored to its rightful owners. The association always will of necessity be governed by the ambitious few, but let that few represent the wishes and best interests of the membership at large. The responsibility of running the association is not, I firmly believe, too great for the intelligence of the rank and file. When the direct ballot is adopted, the most glaring of the many il-

legal features of the A. M. A. will be done away with, namely, the non-membership initial vote for delegates which now constitutes a majority of all the votes cast. It has been proposed that this be remedied by establishing two classes of members, to be termed "members" and "fellows." This proposal to establish a membership caste in the A. M. A. as at present constituted, is worthy of its originator, who is trying to dodge an issue which I have repeatedly put up to the A. M. A. *Affairs in the A. M. A. are, indeed, lamentable when matters such as are here presented cannot be discussed in the columns of the A. M. A. Journal*, yet such is the fact, as has been proven over and over again in the last three or four years. To all criticisms the ruling powers in the A. M. A. reply, in effect: "Let us alone, we are making money and are going to make more money."

Certain ambitious, selfish persons in the profession, noting the ease with which it has been exploited by the coterie of men who for so many years have controlled the A. M. A., have recently founded an organization which "goes it several better." The American College of Surgeons, "patterned after the Royal College of Surgeons of England," is an attempt to "corner the surgical market." It has all the bad features of the present regime in the A. M. A. with none of its redeeming features. What I shall say of the new attempt at monopoly will be brief and to the point.

1. Five hundred surgeons have "consented to act as founders." (See the printed propaganda of the "College.") Who asked them to become founder of anything? *Why, they asked each other.*

2. These gentlemen are going to tell us all just "who are authorized to practice surgery." (See propaganda.) Who "authorized" these men to "authorize" us to practice something we are already "authorized" to do? *Unquestionably, God. There is no earthly power that could have done the "authorizing."*

Please note that anybody can demand a F. A. C. S. of the new "college" and if it is refused can legally compel the organization to stand and deliver. The College professes to designate who is "authorized to practice surgery." (See propaganda.) As we are all "authorized" by law to

practice surgery, the ambitious ones may walk up and claim their degrees. If they are refused, they can sue for damages and are sure to recover.

3. The so-called "American College of Surgeons" is un-American and violates principles which some people are simple-minded enough to believe were settled by the Declaration of Independence and the Constitution of the United States.

4. The objects of the new "College" are multi-fold. Its most dangerous ambitions are: First, to dominate and monopolize all the surgery in the country. Second, to absolutely control all the hospitals and their staffs, driving the independent institutions out of the field altogether. Third, *to get control of the A. M. A.* and grind the profession between two millstones, the present medical monopoly and the proposed surgical trust. One of the founders has been heard to state explicitly, that control of the A. M. A. was the primal object of the A. C. S. Let the profession beware. What is wanted in the A. M. A. is not a new set of masters, but real reforms and the democratizing of the association. No coterie of men should be allowed to control the A. M. A.

A revolution without reforms would be but a shadow of change. The good ship A. M. A. is badly mismanaged, but if she is boarded by a pirate crew, matters will not be mended much. It needs but a glance at the hitherto scientifically-largely-obscure personnel of the 106 Chicago Fellows of the A. C. S. to comprehend the situation. Many of the obscurities probably will yet win their spurs, but the fact remains that they have not yet done so. Among the self-appointed Fellows—many of them hitherto unknown to fame—who marched up in black gowns with crimson facings—which latter probably was symbolic of the wearer's incapacity for blushing—were some rather peculiar elements.

Two brothers of one family, two of another and three of another. One uncle and nephew, and another uncle, his nephew and a son-in-law! Which shows that genius and fame are not sporadic in medical Chicago, but endemic, whole families being affected.

Five at least, of the Chicago fellows are surgeons in chief of public service corporations, which is suggestive to say the least.

There is one feature of the Chicago contingent

of Fellows, which tones down its snobbery very materially. It contains a colored man, who really ought to have thought twice before he joined anything so un-American as the A. C. S. if he had any regard for the eternal fitness of things. Be it remarked that this Fellow is scientifically and professionally no more obscure than many others among the Fellows and he is quite as able as many of them.

A dominant feature of the new "College" is the obligation taken by its members to abjure fee-splitting and surgical commissions. In this connection I would remark that the first shot fired at this reprehensible business was fired by myself in the *Philadelphia Medical Journal*, July, 1900. It is noteworthy that the fiercest opposition to my views came from Chicago men who are founders of the A. C. S. When a resolution condemning the practice was introduced at the Chicago Medical Society, a motion to table was made by one of the Chicago founders of the A. C. S. I have in my possession letters proving that a number of the "Fellows" must have changed front. What is the matter? Doesn't the commission business pay nowadays?

Now, frankly, I do not believe that the profession is so lacking in self-respect and sense of proportions as to tolerate the A. C. S. There is a simple method of discouraging it. If the rank and file should chance to be particular in future in the matter of selecting consultants and referring work, the result is not open to question.

The professional altruism (sic) on which the college is claimed to be founded, would not long stand disapprobation backed by a lack of patronage.

One of the founders of the new "College" recently remarked for publication that much of the surgery done in America was "legalized murder." This brought to my mind the fact that the earliest founder of a Royal College of Surgeons was King Saul.

"And the women sang before Saul, saying, 'Saul hath slain his thousands, David his ten thousands.'"

Professor Saul, F. R. C. S. later threw a scalpel at young Dr. David and tried thereby to lessen inexpert competition.

There is no question but that a new national association is needed in this country, but the



A. C. S. is a false move in the right direction. A National Academy of Medicine and Surgery should be formed with high ideals and a democratic organization. My own idea is as follows:

1. A charter, constitution and by-laws that shall avoid all the evil features of the A. M. A. and which shall provide for the popular ballot and the referendum.

2. Associate memberships, to which all reputable physicians and surgeons shall be eligible.

3. Full memberships, to which only those shall be eligible who shall have practiced for five years or have had a hospital service of at least one year.

4. Fellowships, to which only such men shall be eligible as have practiced at least ten years and shall have taught at least five years or contributed material of value to medical or surgical science. There should be no examinations and the candidate should be permitted to apply for a fellowship in either medicine or surgery, or both, as he may elect.

5. The financial requirements should be moderate, say \$5.00 for entrance fee, \$2.00 for a certificate of membership and \$5.00 per year for dues, or even less, if the expenses of the Academy are such as would warrant a diminution of fees.

6. Honorary Memberships and Fellowships and possibly,

7. Corresponding Memberships and Fellowships.

An organization of this kind would fill what has come to be a national demand. The time is ripe and the occasion is auspicious. There is room for two great national organizations. Each would be a healthful competitive check upon the other, and the two would be mutually helpful and of great benefit to the profession, which is tired of exploitation and eager for conditions that will really help the rank and file.

#### MADNESS WITH METHOD.

"You must either drink hot water with your whisky," said a doctor to a married man who came to him for advice, "or you mustn't take it at all." "But how shall I get the hot water?" asked the patient. "My wife won't let me have it for whisky." "Tell her you want to shave," the doctor said. The next day the doctor called, and asked how the patient was. "He's gone raving mad!" his wife replied. "He shaves every ten minutes!"—*Day Book*.

—The proclamation by Gov. Dunne prohibiting the importation into Illinois of tubercular cattle from nineteen specified states where tuberculosis among cattle is prevalent, is a good move toward protecting our infants from infection. And it makes monkeys of the members of the general assembly who passed the law prohibiting any city from requiring the tuberculin testing of cattle furnishing milk to said city.

—Race suicide and eugenics are surely words to conjure with these days. It is said there has been a reaction among the Socialists of Germany against the proposal to "stop having babies." Some of the more astute leaders point out that limiting the relative number of Socialists cannot fail to decrease their political power.

—Dr. Wm. Guilfooy, registrar in the New York City health department, says: "Nonreporting of births does not by any means account altogether for the steady decrease in this city's birth rate." The department proposes to increase the fine for nonreporting of births, Jan. 1, from \$10 to \$100.

—Speaking of the opposing opinions held by enthusiastic shouters for eugenics and those who take a pessimistic view of the survival of the human race the *Record-Herald* whacks them all as follows:

Which prophet is the poor average man to believe?

The probability is that "eugenics" will neither kill the race nor palpably improve it. No one knows what eugenics is, anyway, and everybody should know that Dame Nature has her own way of mixing and changing the elements that go into marriage and family life. The race has managed to hang on to this little globe, and even to make things more and more comfortable for itself, without legislative and pedantic eugenics. Sentiment has counted for a good deal, and the true scientist knows that romance is not incompatible with health and vigor. The human creature is incurably romantic in youth, and the way of a man with a maid remains one of the most wonderful things in the world. To suppose that a few half-baked statutes or lectures will revolutionize human nature and counteract the deepest of our instincts is to imagine the vainest of vain things.

The very last thing to worry about is the future of the race. The race will take care of itself if we and every other generation will attend to the economic, social and ethical problems that grow out of the time, circumstances and conditions.

#### THE QUESTION AT THE ALTAR.

Suitor—I want to marry your daughter.

Father—Can you divorce her in the manner to which she has been accustomed?—*New York Sun*.

# ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society, under the direction of the Publication Committee of the Council.

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FEBRUARY, 1914.

## Editorials

### RELATION OF THE PHYSICIAN TO THE COMMUNITY.

#### THE MAJOR PREMISE.

The successful progress (the happiness) of mankind depends on the mental and physical welfare of the individual.

The highest welfare of the individual can be accomplished only by scientific community effort, broadly systematized, intelligently directed and controlled.

**This means scientific government.**

Happiness lies not in the attainment of a terminal state, a goal, but in the advancing progress of successive steps of achievement toward a goal, in one word, in growth. We may therefore speak of the successful progress of mankind, and of the happiness of mankind, as synonymous. Which way happiness lies, along what route, we do not know.

As to what constitutes happiness whether of the individual man or woman or of a nation or community or of the race. there are as many distinct opinions and beliefs as there are thinkers. Each system of religion, proclaiming the authority of its own source of revelation and scorning the questioning mind, asserts that only it can

lift the veil which hides the road that surely leads through travail, sacrifice and faith to happiness. Each philosopher knows and each school of philosophy teaches the road. The egoist, the communist, the socialist, the materialist, the pragmatist, the anarchist, the moralist, the aesthete and the ascetic, in ponderous phrase and by plausible assumption with logic incontrovertible and discussion interminable each in turn teaches us so well to know the road that we are convinced we do know it—until we meet the next philosopher. Statesmen and lawgivers have appeared, established their systems of living by enactment and given promise of happiness to come. But they have died, and their systems have followed them into history. For the development of the soul, of the mind, of the character, of the emotions, of the sentiments, of the morals, of the manners, of the passions, of the individual, of the mass, for the rule of chaos, of chance, and of law, there have been and are advocates, numerous, strenuous and verbose. And we are all of us individually adherents of one or more of these schools of philosophy and every one of us, even the anarchist, believes that it is *BEST* that there should be some form of organized effort. However, the happiness of human being is to be accomplished, whether through civilization or barbarism, through law and order, voluntary association or chaos, whatever opinions or beliefs we may severally hold or adhere to, upon one thing we must from the character of the problem agree—and that is this, without mental and physical health, happiness whether of the individual or the mass is impossible. Health then is the foundation of happiness and the rock upon which "welfare" is founded. This is a very commonplace thing to say, a truism so trite that its statement seems uncalled for. But because it is true, because it is axiomatic and because it is also the foundation of the argument we wish to present it is necessary to say it here and with especial emphasis. Mental and physical health is the basis of human welfare. (The self-appointed, accepted, legalized, care-taker of health is the physician.)

That the welfare of the individual depends on the physical harmony that obtains among the individual cells that in aggregation constitute his mass is another axiomatic proposition and in



the same way if in a community there exist one or more sick or feeble individuals by just so much does that community fall below its possibilities in accomplishment.

If there be one sick or enfeebled by preventable disease, the community is at fault. That the community may reach its highest development requires knowledge, intelligence, humanitarianism, applied in the care of each individual. The strength of men should be unitedly applied to the subjection of the forces of nature to the will of humanity for the benefit of all. No strength of men should be wasted in fighting each other either in warfare or in competition for individual gain. What cancer is to the body the swollen fortune in private hands is to the community.

Any organized system of co-operative effort having for its purpose the accomplishment of the highest welfare of the community for the benefit of all and the establishment of the highest welfare of the individual as a means thereto, of necessity must constitute scientific government.

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#### ABDERHALDEN'S DIALYZING TEST FOR PREGNANCY.

About two years ago, Abderhalden, basing his researches upon the previous work of Schmorl and Veit, formulated a laboratory diagnostic test for pregnancy. The principles of his conclusions are not confined indeed to pregnancy, but apply to very many other conditions, even to the diagnosis of cancer and of certain mental diseases.

The fundamental idea is that the blood forms protective ferments (*Abwehrfermente*) against foreign proteids which enter it. These foreign proteids may be of many kinds and may reach the blood-stream by many ways. As examples may be mentioned snake venom, serum from an animal of another species, and proteids elaborated within the chorionic villi. The last only concern us in this discussion.

Proteids from the chorionic villi are passed into the vessels of the uterus and thence reach the maternal circulation. These substances are, to all intents and purposes, matters foreign to the maternal organism. As such they set up a reaction in the maternal organism much as would be set up by toxic products of micro-

biology. In a sense antibodies are produced and are found in the serum of the maternal blood.

It appears that something in the serum of pregnant women has the power of splitting up the proteids formed in the fetal portion of the placenta (chorionic villi). Therefore, if these proteids, in a pure state, are treated with serum of any pregnant woman they should be chemically acted upon by this serum and such action should be indicated by certain testing reactions. Such reactions Abderhalden claims to have discovered.

A fresh placenta is carefully washed, both externally and by flushing through its vessels. It is obvious that all maternal blood and all fetal blood must be removed because such blood would be expected itself to contain the protective ferment. The placenta is then cut into small pieces and boiled. The filtrate from this process is supposed to contain the chorionic proteids. This filtrate is placed in dialyzing tubes and dialyzed with the suspected serum. The dialyzing membrane must be safe against the passage of albumen from one solution in the dialyzer to the other. The dialyzate is then treated with a small amount of a one per cent. solution of ninhydrin. If the test is positive there will be a violet color reaction.

The test is intended as a diagnostic measure during the first four months of pregnancy. It is not claimed to be valuable in normal pregnancy during the latter half of the period of gestation. On the other hand, the reaction has been found to occur in eclampsia, even during the later months. Thus the test may prove useful in cases of threatened eclampsia or of suspected toxemia of pregnancy.

In the hands of Abderhalden and his associates the test seems to be of great diagnostic value. Most other German workers have corroborated his conclusions, although many have recorded limitations and failures. Especially disconcerting is the fact that the test often fails in cases of ectopic pregnancy, fibromyoma and uterine cancer. These very conditions are those in which such a test would be most practical.

It would often be immensely important to be able to rule out ectopic gestation in certain cases of salpingitis and other pelvic infections. A small fibromyoma is often hard to differentiate

from a pregnant uterus of corresponding size. In cancer of the body of the uterus time is an important element for the patient's welfare. If there was a test for early pregnancy which could be positively relied upon in cases where the diagnosis halts between adenocarcinoma of the uterine body and early pregnancy, it might be the means of saving the patient's life. The time spent in waiting for the development of the diagnosis according to ordinary means is often enough for an operable case to become inoperable.

Outside of Germany more failures of Abderhalden's test are reported, many by American investigators. The test has been found negative where subsequent events proved pregnancy and positive where no further signs of pregnancy appeared. It has even been reported positive in men.

Whether these failures have been due, as Abderhalden says, to faulty technique must remain uncertain for the present. Many failures of the test have been reported by excellent and well-trained laboratory workers.

The test seems simple, but even Abderhalden and his supporters admit that great care must be exercised in preparing the placental extract and in treating the suspected serum. When laboratory workers, following strictly Abderhalden's technique for a considerable time longer shall have confirmed his views more completely, or shall have reported a considerable percentage of failures, then will the profession be in a better position to judge of the practical clinical value of the test.

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### THE ILLINOIS STATE BOARD OF HEALTH.

The resignation of Dr. George W. Webster as president and member of the State Board of Health, and the appointment of a new membership by the Governor is good reason for referring here to the leadership of the board and the importance of the work which has been accomplished during the thirteen years of Dr. Webster's excellent presidency, and for the expression of a hope that the present body, while holding to the best ideals of its predecessors, will in energetic yet sane and thoughtful fashion give itself to the problems which still await solution.

Dr. Webster was during his entire term an

ardent advocate of higher educational standards, a staunch supporter of numerous reforms and an able officer in the discharge of his duties. To his initiative and energy are due many of the measures which in sanitation and health are counted real advances. Free antitoxin, a commission for the investigation of occupational diseases, the control of ophthalmia neonatorum, the establishment of machinery for the production and distribution of antityphoid vaccine, the closing of diploma mills, the prosecution of medical fakirs, and many other constructive successes are to his credit. In the fight for an efficient vital statistics law, Dr. Webster took a leading part, and has always been found in the front rank of movements for the betterment of sanitary and health conditions.

Dr. John A. Robison, the newly elected president of the board, comes to his duties with ripe experience in active practice and energy for the work in which he has long been interested. The personal traits which multiply friends he has in good measure. These and his fidelity to duty, honesty of purpose, love for fair dealing, and a Scottish courage of conviction have given to him the confidence of his brother practitioners and of the public wherever he has come into personal contact with them. These and other qualifications are auspicious for the successful administration of the important duties of his office.

By promptly completing the personnel of the board through the appointment of a first-class secretary and executive officer, Governor Dunne can keep our commonwealth among the leaders in sanitary and health administration. However, it is not out of place in this connection to say that before Illinois can advance her leadership, more adequate financial support must be forthcoming from the legislature, a support which shall be commensurate with the dignity and prominence of this great state.

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### THE NEW ILLINOIS STATE SURGICAL SOCIETY.

During the latter part of October, 1913, the Illinois State Surgical Society was incorporated. Its incorporators believed that there was a distinct need for such an organization. This feeling has been further expressed in concrete fashion by the organization of the Chicago Surgical Society,



Inc., which held its initial meeting on January 19 at the Hotel Bismarck.

The organizers of the Chicago Surgical Society planned from the beginning that it should be one of the component parts of the State Surgical Society, and judging from the marked interest which has been manifested in Chicago in the formation of these societies, it is fair to assume that a like interest will be shown by surgeons all over the state when they come to know of the scope and aims of these organizations for the advancement of the science and art of all branches of surgery.

The state is to be subdivided into such component parts as will facilitate the awakening of the greatest degree of scientific interest and activity in local centers where a meeting once a month is practical and feasible. Such district societies may hold monthly or quarterly meetings, and once a year the entire society comes together for large general session.

Fundamentally this is to be a broad, liberal, democratic society, widely representative of the surgical practice and surgical thought of the state, including all who are worthily and actively engaged in general surgery or any of its specialties. Its ultimate aim and purpose is to assist and stimulate all those doing surgery by encouraging their best effort in operating, report of cases; the free interchange and record of ideas, and by promoting wider and more intimate personal acquaintance among the members.

The first component local society is, therefore, the Chicago Surgical Society, starting with one hundred members, who have exhibited a wonderful amount of enthusiasm. Beginning with February, this society will hold regular monthly scientific meetings.

The following were elected as officers:

President—Charles E. Humiston.

Vice-president—J. H. Walsh.

Secretary—Mortimer E. Emrick, 5700 Kimbark avenue.

Treasurer—James C. Stubbs.

Incorporation officers of the Illinois State Surgical Society, for the purpose of organization, are as follows:

President—J. V. Fowler.

Vice-president—E. Windmueller.

Secretary and Treasurer—C. B. King.

These gentlemen will serve until the annual meeting, which will precede the meeting of the Illinois State Medical Society at Decatur, by one day. This organization, the Illinois State Surgical Society, will in no way run counter with the State Medical Society, but will work in harmony with it, stimulate its attendance and interest, and otherwise support its work. This is evident from the fact that the first prerequisite for membership in the State Surgical Society is good standing in the State Medical Society. Further requirement specifies ten years of surgical practice, or less in case of internship or special service in surgical work.

All men throughout the state doing surgical work—general, eye and ear, nose and throat, orthopedic, genito-urinary, gynecologic, etc., are invited to communicate with the officers for the organization of district societies and affiliation with the Illinois Surgical Society.

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#### THE INCOME TAX AS APPLIED TO PHYSICIANS.

The law is that all citizens having an annual income of \$3,000 or over are required to make a return thereon.

Net income is understood to mean gross income less the deductions which the law allows, namely:

"First, the necessary expenses actually paid in carrying on any business, not including personal, living, or family expenses; second, all interest paid within the year by a taxable person on indebtedness; third, all national, state, county, school and municipal taxes paid within the year, not including those assessed against local benefits; fourth, losses actually sustained during the year, incurred in trade or arising from fire, storms, or shipwreck, and not compensated for by insurance or otherwise; fifth, debts due to the taxpayer actually ascertained to be worthless and charged off within the year; sixth, a reasonable allowance for the exhaustion, wear and tear of property arising out of its use or employment in business, not to exceed, in the case of mines, 5% of the gross value at the mine of the output for the year for which the computation is made, but no deduction shall be made for any amount of expense of restoring property or making good the exhaustion thereof for which an allowance is or has been made; *Provided*, That no deduction shall be allowed for any amount paid out for new buildings, permanent improvements, or betterments, made to increase the value of any property or estate."

From the net income arrived at, as indicated above, there may then be deducted the amount of income, the tax upon which has been paid or withheld for payment at the source of the income; the amount received as dividends upon the stock or from the net earnings of any corporation, joint stock company, association, or insurance company, which is taxable upon its own net income.

The application of the Income Tax law to physicians presents some difficult problems. The first being: What is a physician's income? This point is easily determined where physicians are employed on a salary by corporations and other industrial organizations. However, the great majority of physicians have an income which is made up of small fees received for services rendered a relatively large number of patients.

Physicians are in the habit of speaking of gross annual receipts as income. Gross receipts no more constitute a physician's income than the gross receipts of a railroad corporation constitute the income of the stockholders or owner. Out of the entire amount of money received during the year the physician has to pay the expenses of his business, the same as does the railroad corporation.

The law makes provision for deductions of necessary expenses for carrying on any business and the physician should not fail to bear this in mind when making out his income tax schedule. He should charge off such items as office rent, heat, light, telephone, bad accounts, drugs, dressings, medical books, medical journals, membership in medical societies, the cost and maintenance of automobiles, horses and carriages, all of which is absolutely indispensable for present day professional needs.

Many physicians carry on their work in their homes. In such cases some items before mentioned may be partly professional and partly personal, a maid for instance, who acts as attendant in the waiting room during the duties of office hours may be employed with domestic duties at other times. In such instances equitable apportionment must be made and the amount apportioned for carrying on professional work should be deducted from the gross income.

Clearly then a physician's income is the same as a corporation's, namely, the difference between his gross receipts and the cost of operating his business or the amount that he has left over for himself after paying all the expenses necessary for successfully carrying on his business.

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## OVER EATING AND UNDER EXERCISING.

There is no denying the fact that the majority of people eat too much. The average individual

eats many times the quantity necessary to keep him in good health. Most people are in the habit of eating because it is the regular meal time; not because they are hungry but for fear that they may be hungry before the next meal is due to be served.

Our bodies are chemical laboratories in which there are such compounds as constitute all unstable organic chemical bodies, the result of changes going on in the body as a whole, or in the individual cell while taking in new matter, fixing and changing it and throwing it off again. These processes are known as metabolic, which changes are again divided into catabolism and anabolism. These splitting and tearing down and building up processes are going on continually. Bacteria are indispensable to the digestion of some foods, especially proteins. It is, therefore, important to remember that too much decomposition of food of whatever kind in the alimentary canal, without sufficient muscular exercise to bring out the combustion sufficient to burn it up, is bound to result in the same thing that happens when a furnace is overloaded and the air is excluded. Looking at it from another point of view it will bring about the same processes that happen in the garbage can when it is not frequently or completely emptied.

Nor does it matter so much what an individual eats; the greater the variety the better, providing his food is simple and nourishing. One should not confine himself too strictly to a vegetable diet, neither should he eat too much meat. During generations the majority of the European agricultural population lived upon vegetable foods the same as did the eastern Asiatics, and with the same results. Hard labor produces hard muscles, but vegetable food yields a low vital tension. The pale faced clerk who eats meats with regularity will outfight and outlast the laborer whose sinews are mostly compounded of vegetables and water. Man is an omnivorous animal, and he should recognize this fact and govern himself accordingly. Eat vegetables, eat meat, but eat sparingly, especially as you advance in years. Dr. Love put it tersely thus, "as man grows older, he should eat less, drink less alcoholics, worry less, frivol less, work less, but do better work and eliminate more waste matter."



"Moderation then in meat eating, with moderation in the consumption of vegetables, other things being equal, should make a man healthy, happy and wise."

## Correspondence

### MEETING OF ALIENISTS AND NEUROLOGISTS.

*To the Editor:*

The Chicago Medical Society will hold their third annual meeting of Alienists and Neurologists of the United States, July 14 to 18, 1914.

It is the object of the society:

First: To have a scientific program. The titles of papers already received for this meeting indicate such a one, and some research work is being done that will be beneficial to every physician whether connected with an asylum, sanitarium or in general practice.

Second: One that will be educational to the public as well; therefore, one day is to be devoted to the discussion of the prevention of insanity and the conditions causing mental defectives, to which the public will be invited.

Resolutions will be introduced and discussed, for the framing of such laws that will, in a reasonable measure, prevent these conditions, and such resolutions will be presented to the various state legislatures and the national government for their consideration.

Third: A committee has been appointed to report on what constitutes a modern hospital or asylum, and what the duties of the state to the physician who makes the care of the insane and mental defectives a specialty.

Superintendents and attending physicians of insane asylums, sanitariums, and neurologists are invited to participate in this meeting, either by paper or to be present and discuss papers. Those wishing to present a paper at this meeting should forward us the titles at once, that we may fill the program without conflicting subjects.

All communications should be directed to the secretary of this meeting, Dr. W. T. Mefford, 2159 W. Madison street.

Yours very truly,

L. HARRISON METTLER,

W. T. MEFFORD, Sec'y.

Chairman.

### OWNERSHIP OF PHYSICIAN'S PRESCRIPTION.

Streator, Ill., Jan. 5, 1914.

*To the Editor:* Would you kindly advise me as to the legal ownership of a physician's prescription and can the druggist refill same as often as he pleases or give copies of same?

Fraternally,

L. D. HOWE, M. D.

Answer: A search through the Index Medicus and through the library of the Chicago Law Institute fails to definitely locate any decisions of courts of record in which the question of the physician's own rights in the prescription has been decided.

The only case noted that related in any way to the subject was that of the R. C. Stuart Drug Co. vs. Hirsh in 50 S. W. 583, decided by the court of civil appeals of Texas, March 22, 1899. This case was described as follows:

(1) A mortgage over all the stock of drugs, medicine, and merchandise and apparatus of every kind and description whatever, was held not to include a file of prescriptions which had been filled.

(2) While the testimony shows that, though the persons depositing prescriptions with a druggist have a qualified right to use them if asserted, yet as to third persons the druggist was entitled to them; his transferee could recover their value in an action for conversion.

The contention of appellants is that such property (prescriptions) is not a subject of transfer, for the reason that they are the property of the respective persons depositing them, and the druggist held them in the capacity of trustee or bailee for them.

This case has been quoted in the *Journal A. M. A.* and also in articles in the *Chicago Clinic* by J. M. and G. T. Palmer, Nov., 1902, page 395; also *New York Medical Journal*, July 20, 1901, page 110, by J. W. Jervey.

The *Journal A. M. A.*, Dec. 12, 1903, in an editorial says the prescription is simply a letter or note to the chemist instructing him to do certain things. The fact is no one owns a prescription.

The Palmers mentioned above, offer three theories of the ownership without backing any.

One quoted from the *Bulletin* of the School of Pharmacy of Northwestern University, September, 1902, is as follows: A physician's prescription is an order to the pharmacist; hence the pharmacist is the sole owner of it. The patient is not the owner of it for the physician does not address it to the patient, nor does he sell the prescription. What the patient pays the physician for is not the prescription but the diagnosis and treatment. No pharmacist has any right to fill prescriptions a second time unless he receives a fresh order from the author of it. Palmer further suggests that the pharmacist is the physician's agent and that the ownership rests in the physician; or, the prescription may be considered a written agreement between physician and druggist; then he can stipulate that the prescription be not refilled. Finally he says the question was yet to be determined by the courts.

J. W. Jervey, writing on "Common Law Rights and the Physician's Prescription," *New York Medical Journal*, July 20, 1901, page 110, draws the following conclusions:

(1) The patient has no legal or other right to demand a written prescription or written directions from the physician.

(2) It is right and wise that the druggist demand and procure from the physician his written orders for the compounding of prescriptions.

(3) The physician has the undoubted right to designate what pharmacist shall fill his prescriptions.

(4) The written prescription is simply an order from physician to pharmacist. It is through courtesy, and by virtue of custom and convenience, handed to the patient for transmission, and the latter has not at any time the slightest right of possession in the instrument.

(5) The druggist has at least the right of permanent guardianship (perhaps of outright possession) of the prescription, and he must keep it on file for reference and for any form of proper investigation.

(6) There can be no right, extenuation or excuse for a copy of a prescription, with physician's name attached, to be taken by druggist, patient, or anyone else, without the authority of the physician.

(7) The careful physician should invariably retain a carbon paper facsimile copy of every prescription he writes.

(8) The druggist has a legal right to utilize any formula that is uncopyrighted that may fall into his hands, but he cannot, unauthorized, use the name of its author in connection with it. In most states, however, statutes would bar his selling intoxicants or other poisons except by direct order of physicians.

(9) If a druggist refills a prescription without the order of the physician who wrote it, he does so on his own responsibility, and he has no moral or legal right to place the physician's name on the container.

(Jervy thinks no opinion exists giving patient right of ownership.) Compares the prescription to a bank check which the payee has to give up when he cashes it.

## FEDERATION OF STATE MEDICAL BOARDS—INVITATION TO MEETING.

A general invitation is extended to members of the Illinois State Medical Society to attend the meeting of the Federation of State Medical Boards of the United States, which will be held in Chicago, Feb. 25, 1914, in the Francis I room of the Congress Hotel.

W. H. GILMORE, Secretary.

## IMPORTANT STATE BOARD OF HEALTH NOTICE.

The attention of the medical profession of Illinois is called to the fact that packages of typhoid vaccine for immunizing purposes are ready for distribution. Each county, except Cook, has an agency for such distribution at the county seat. The vaccine is to be furnished gratis by the agent to the physician for the immunization of any resident of Illinois, the only requirement being that a receipt be given containing the name and address of the person to

whom the prophylactic treatment is to be administered.

The certainty of typhoid immunization is well established. The immunization lasts from two to three years. Full directions for use accompany the packages.

The action of Illinois in distributing typhoid vaccine to her citizens demonstrates her progressiveness and alertness in safeguarding the health and lives of her people.

## HAVE YOU YOUR COPY OF THIS BOOK?

Every doctor who reads this journal should possess a copy of the great Therapeutic Price-List (1913-1914) which comes from the Laboratories of The Abbott Alkaloidal Company, Chicago. This book is more than its name implies, a mere price-list; its size is 5x8; it is cloth-bound in attractive library style and one department, alone, contains over 100 pages of clinical suggestions. There are some 400 pages in all. Doctor, if you haven't received your copy better send for it now. It is free for the asking.

## SEX HYGIENE PROBLEMS.

This thing of teaching hygienics in the public schools may be all right, but we have our doubts. It might be all right to try it on the kids less than 6 years of age, but where will you find instructors who can tell anything to the youngsters that are older than that.—*Monroe (Ore.) Leader.*

## SIGNS OF THE TIMES.

The shades of night were falling fast  
When through Lombard our traveler passed.  
And there, in letters large and bold,  
This cheerful sign did he behold:

"John H. Kampp,  
Undertaker and Embalmer.  
Fireproof Storage."

—*B. L. T. in Chicago Tribune.*

Eugenic legislation is said to be hurting business in Milwaukee. Only five marriage licenses have been issued since Jan. 1, and the merchants who advertise "Let Hartbaum pad your cell" complain that business is sehr punk.—*B. L. T. in Chicago Tribune.*

## SAD NEWS.

"Do you know that rich old codger's pretty young wife has lost all hope of him?"

"Is he as ill as that?"

"No; the doctor says he is likely to live for years."  
—*Baltimore American.*



## Auto Sparks and Kicks



Courtesy of the Chicago Evening Post.

### KEROSENE A PROBABLE FUEL OF THE NEAR FUTURE.

Kerosene, owing to its cheapness and the large number of heat units per pound contained, would be an ideal fuel if it were not for the fact that it is not sufficiently volatile to start an engine with the ordinary carburetor. Kerosene contains 22,000 heat units per pound, while gasoline contains only 19,200 units. If suitable carburetors are devised, no essential change will have to be made in the present type of engine for its use, and at the same time more miles per gallon can be obtained than with gasoline.

Disastrous fires are sometimes caused, in fact, very often, by backfiring through the carburetor, and if a pool of gasoline is present under the carburetor or in the underpan, it is very difficult to save the car. In case of a backfire followed by flames from burning gasoline under the carburetor, the best thing to do is to instantly crank the motor as rapidly as possible, so that it will start, thus drawing the flame back into the carburetor before it has time to melt the connections to the carburetor. A little sand or dirt from the road is then, as a rule, sufficient to extinguish the burning pool which is left.—Auto Trade Journal.

### PROTECTING THE MAGNETO

To insure the magneto against intermittent action due to moisture getting into the distributor, a leather hood that completely covers the magneto is practical protection.

### THE USUAL PROFIT.

"Did Jones realize anything in the investment he made on the tip Smith gave him?"

"Oh, yes."

"What did he realize?"

"What a fool he had been to take it."—*Baltimore American*.

### A Dry Spell.

Binks—"Hello, old chap, how's the world treating you?"

Banks—"Very seldom."—*Canadian Courier*.

### "WATER, WATER EVERYWHERE. BUT NOT A DROP TO DRINK."

We cannot have our foods or our bodies too clean for health and comfort. But the present demand for absolute sterilization has been urged by some pure-food hysterics with about as clear an idea of what the term actually means as was exhibited upon the bill of fare in a Filipino restaurant in Manila. It was a smart-looking, well-managed establishment, and very anxious to be strictly up-to-date and secure American patronage.

So at the bottom of the menu was the legend in red letters:

Rest assured, O Guests, that all whatever water be served upon these table has been thoroughly fertilized!

*Dr. Woods Hutchinson, in Munsey.*

### HIS DELAY.

A man nearly 80 years old walked ten miles from his home to an adjoining town. When he reached his destination he was greeted with some astonishment by an acquaintance.

"You walked all the way!" the latter exclaimed. "How did you get along?"

"Oh, first rate!" the old man replied genially. "That is, I did till I came to that sign out there, 'Slow down to fifteen miles an hour.' That kept me back some."—*Youth's Companion*.

### "EVERYTHING O. K."

This letter was written by the caretaker of a summer place up North, and ran:

Your letter came. Glad you brought a team of horses. Hilda is sick. She has diphtheria, and she will die, I think. Clara died this eve. She had it too. We are quarantined. Five of Fisher's family have got it. My wife is sick. She hain't got it. If this thing gets worse, we may have to get a doctor. Them trees is budding good. Everything O. K.

*B. L. T., in the Chicago Tribune.*

## Society Proceedings

### ALEXANDER COUNTY.

The Alexander County Medical Society held its annual meeting in the Commercial Club rooms, in Cairo, Dec. 18. Eighteen out of the twenty-three resident members of the society were present. The report of the secretary-treasurer showed the following facts:

Number of meetings held during the year, 10; average number in attendance, 11; number of resident members, 23; non-resident members, 2; total membership, 25; total number of eligible physicians in county, 31; number of fellows of the A. M. A. in the county, 8; debts of the society, none; cash on hand, \$14.50.

The following officers were elected for the ensuing year: President, Dr. Samuel Dodds, Cairo; vice-president, Dr. G. H. McNemer, Cairo; secretary-treasurer, Dr. Jas. W. Dunn, Cairo; member Board of Censors, Dr. H. A. Davis, Cairo.

At the close of the meeting the members adjourned to the Alexander Club, where a banquet was served. Following this a symposium on "The Doctor" was given, with Dr. Flint Bondurant toastmaster. Those who responded were: Dr. S. B. Cary on the doctor as a "Victim"; Dr. G. H. McNemer, as an "Enemy"; Dr. Samuel Dodds, in "Evolution"; Dr. W. F. Grinstead, as a "Trust." The meeting closed at 12:30 a. m., with telling of stories, Dr. H. A. Davis acting as raconteur.

It was the consensus of opinion that this was the most enjoyable meeting we had ever held, not only because of the quality of the edibles and replies to toasts, but because of the fact that not a single call came in for a physician during the whole evening. This was probably due to the humorous notice in the evening paper that an extra fee of \$25.00 would be added to any call received between 8 p. m. and midnight.

### CHAMPAIGN COUNTY.

The Champaign County Medical Society held its regular meeting in the Hotel Beardsley at Champaign, Ill., January 8, 1913.

Dr. A. M. Corwin of Chicago read a very instructive paper on "The Pathology of the Tonsil and Its Metastatic Complications Throughout the Body." He spoke of the Sluder method and the other methods of enucleation, in a most masterly style. The meeting was an unusually profitable one for all members present.

WM. V. SECKER, Secty.

### CHRISTIAN COUNTY.

On Thursday afternoon, January 15, 1914, the Christian County Medical Society met in regular session in the county court room in Taylorville and the meeting was called to order at 2 p. m., by

President Dr. D. K. Cornell. After the minutes of the last regular and the special monthly meeting at Pana were read and approved, the society took up the regular business of the day.

We were disappointed in our speakers, especially Dr. Palmer of Springfield, who was to have talked on the ever timely topic of "Tuberculosis." However, there were so many matters of importance brought before the meeting that every moment of the time was fully occupied until we were obliged to close for the banquet which followed.

Our society is endeavoring to get monthly meetings so established that they will be popular and profitable and this occupied much time and attention. The question of greatest interest, however, was the discussion of contract practice. For a number of years past there had been no contract for pauper work in this county until last year when, as the result of certain abuses through a supervisor who was entirely too liberal, the board of supervisors became so enthusiastic over letting the pauper practice by contract that they solicited several members of the society for bids, but were consistently and persistently turned down. At last a physician was found who is not a member of the society and he was induced to take the contract, and your secretary is informed that the contract is for \$1,600.00 for the year. Before the abuse above mentioned arose, the pauper practice of this township ran about \$600.00 or less when it was properly looked after by the supervisor. Thus, to carry their point and "beat the doctors" our supervisors were willing to pay \$1,000.00 of our public money above the necessary "to secure a contract." Thus you see supervisors are always thorough business men. The physician who had taken the contract was not able to carry it out as his health failed and he had to go away for a time, and one of our members took the job of caring for the poor to accommodate the original contractor—and for the money in it. This matter was very freely discussed and at last settled in a most satisfactory manner and every physician in our township has reiterated his adherence to our rules and principles as outlined in our fee-bill and rules of practice, which forbid contract practice and are signed by each member of the society.

At 5:30 all present at this meeting repaired to the Antlers Hotel, where we enjoyed a most pleasant banquet.

We shall endeavor to hold our next monthly meeting at Pana on the third Thursday of February, the next one at Taylorville on the third Thursday of March, and the April meeting will be superceded by the regular district meeting which is always held at Pana.

The newly elected officers are the same as last year, viz.: president, Dr. D. K. Cornell; vice-president, G. L. Armstrong; secretary-treasurer, D. D. Barr; delegate and alternate, Drs. Armstrong and



Lawler; legal committee, Dr. J. N. Nelms; public health committee, Dr. Jesse P. Simpson; censors, Drs. Armstrong, Nelms and Carroll.

D. D. BARR, Secty.-Treas.

### COOK COUNTY.

#### Chicago Medical Society.

##### Regular Meeting Jan. 7, 1913.

###### PROGRAM.

1. Gleanings from the International Congress for Tuberculosis at Berlin, Oct. 22-25, 1913..... Alexander Weiner, M. D.
2. Lung Compression in the Treatment of Pulmonary Hemorrhage..... Ethan A. Gray, M. D.
3. Treatment of Tuberculosis by Pneumothorax..... John B. Murphy, M. D.
- Discussion ..... Drs. John Ritter and Clarence L. Wheaton

##### Regular Meeting, Jan. 14, 1913.

A joint clinical meeting between the Chicago Medical Society, the Douglas Park and Aux Plaines Branches at the Cook County Hospital.

###### PROGRAM.

1. Demonstration of Surgical Cases..... Charles J. Rowan, representing Douglas Park Branch  
Discussion..... Drs. J. H. Edgcomb, Charles A. Albrecht, F. J. Ehrmann, C. F. Klaus
2. Demonstration of Cases..... C. E. Humiston, representing Aux Plaines Branch  
Discussion ..... Drs. J. V. Fowler and C. C. O'Byrne

##### Regular Meeting, Jan. 21, 1913.

###### PROGRAM.

1. Arterio-Venous (Varicose) Aneurism of the Deep Epigastric Artery and Vein Report of a Unique Case with Review of Literature..... M. J. Seifert, M. D.  
Discussion ..... Drs. A. E. Halsted and Wm. Danforth
2. Lymphatic Tuberculosis Simulating Hodgkins Disease..... Jos. M. Patton, M. D.  
Pathology, Demonstration of Slides..... Wayne A. Bissel, M. D.
3. Spinal Transplant..... Henry Bascom Thomas, M. D.  
Discussion ..... Drs. E. Willis Andrews and Chas. Davidson
4. Auricular Fibrillation.... J. R. Ballinger, M. D.  
Discussion..... Dr. Alex. F. Stevenson, Jr.

#### Englewood Branch, Chicago Medical Society.

The January meeting of the Englewood Branch was held at the Englewood Hospital, Tuesday evening, Jan. 6, 1913.

The following program was presented:

#### DIFFERENT PHASES OF LATE SYPHILIS.

1. Visceral Lesions..... Chas. H. Miller
2. Parasyphilitic Lesions..... Thor. C. Rothstein
3. Bone Lesions..... Rupert M. Parker
4. Present Status of Treatment..... Victor D. Lespinasse

The papers were all extremely good and along the line of the very latest work done.

The discussion was opened by Dr. D'Orsay Hecht of the Neurological Department, Northwestern University. He complimented the speakers on the splendid array of facts presented and stated that so thoroughly had the subject been covered, and in keeping with the most recent information, that little was left for him to say. However, he spoke extremely entertainingly, confining his remarks mostly to syphilis of the nervous system, stating that it was full of surprises and that the symptoms were most varied and that the sero diagnosis test had done a deal toward clearing up doubtful cases. He stated that a positive Wasserman on the spinal fluid predicated syphilis of the nervous system and that the blood reaction may have been negative.

Dr. H. I. Davis of the Neurological Department of the Illinois University also gave an extremely interesting discussion of the work being done in obtaining positive Wassermans in certain cases of neurasthenia and insanity.

The discussion then became general. The meeting lasted until well after midnight and every moment an interesting one.

The attendance was 103.

ARTHUR G. BOSLER, Secty.

### CRAWFORD COUNTY.

The January meeting of the Crawford County Medical Society was held in the Carnegie Library, Robinson, Illinois, January 8, 1914. The president being absent, the meeting was called to order by the vice-president, Dr. I. L. Firebaugh, at 2 o'clock p. m.

The following members were present: I. L. Firebaugh, J. M. Mitchell, J. W. Kirk, H. F. Jones, J. E. Midgett, J. B. Cato, Geo. Molher, J. W. Carlisle, C. E. Price, Chas. E. Davis, H. N. Rafferty, A. L. Lowe and Leroy Newlin.

Dr. A. L. Lowe read an interesting paper on "Colds." The paper emphasized the fact that while colds in the acute stage were usually not of a serious nature, many times they were the forerunners of a serious complication, pneumonia being one of the most frequent complications. The cold should receive early attention and careful treatment in the early stage by which the complications many times can be avoided. The paper was discussed by most members present and the discussions closed by Dr. Lowe.

Dr. J. M. Mitchell read an exhaustive and interesting paper on "Abortion." The paper was quite

an interesting one, going into detail as to the different causes and showing from statistics that abortion with some women becomes a fixed habit, sometimes from personal interference to conception and sometimes otherwise. Dr. Mitchell gave no set rule of practice, but would be governed largely by the individual conditions and the nature of the case.

The paper was discussed by most members present, Dr. Mitchell closing the discussion.

On motion of Dr. H. N. Rafferty duly seconded, it was decided to present this paper to the State Medical Society for publication in the *ILLINOIS MEDICAL JOURNAL*.

There being no further business, the society adjourned.

LEROY NEWLIN, Secty.

### EFFINGHAM COUNTY.

The Effingham County Medical Society met in regular monthly session at Effingham in the City Hall, January 13, at 1 p. m., with President Bing in the chair. Minutes of the previous meeting were read and approved.

The roll-call showed the following members present: Drs. Bing, Brooks, Burkhardt, Buckmaster, Damron, Dunn, Goodell, Haumesser, Holman, Kershner, Lorton, Taphorn, Walker, Weisenhorn, Wettstein and Henry. The following visitors were present: Dr. Clarence Martin of St. Louis, the guest of honor, Drs. Morey and Greer of Vandalia, Dr. Greer of Brownstown, Dr. Dale of St. Paul, Dr. Long of Effingham, Dr. Paugh of Mason, Dr. Claigg of Dieterich, Dr. Lawrence of Effingham and Dr. Johnson of Casey and a few others whose names we did not get.

It was proposed to amend our by-laws to read, "Agreements and schedules of fees may be made by this Society."

Three applications for membership were read, referred to the Board of Censors and reported on favorably to be voted on at the next meeting.

The scientific program opened by the reading of a paper by Dr. J. C. R. Wettstein on "Renal Hematuria." The Doctor took up the subject in a very thorough manner which showed he had given the matter much study and investigation.

Dr. Clarence Martin of St. Louis next read a paper on "Urinary Hemorrhages: Determination of Their Source." He went into the subject deeply from a scientific standpoint and urged that all urinary hemorrhages require a searching examination for their cause and source. These papers were jointly discussed very freely and highly praised for their great worth to this society. A vote of thanks was given Dr. Martin for his kindness in being with us today.

Next on the program was a "Quiz on the Code of Ethics," by the Board of Censors. Dr. Burkhardt led this quiz and it brought out a hot and

lengthy discussion, so there can be no doubt as to what a "scab" is, and as to where this society stands and expects its members to stand on ethics. It is the intention of the society to have the Board of Censors cultivate, teach and enforce a more rigid adherence to the principles of ethics by all in the future. The new proposed fee-bill was distributed for study and corrections or additions, and to be taken up for further consideration at the next meeting.

This was surely one of the best meetings in the history of the society. We were thankful to have so many present and were sorry for those who were absent. All were urged to read "Booster Sermon," page 31, January *ILLINOIS MEDICAL JOURNAL*. With a general good feeling and bright prospects of many more such pleasant gatherings, the meeting adjourned.

E. W. BROOKS, Secty.

### GREENE COUNTY.

The annual meeting of the Greene County Medical Society was held in Roodhouse, Illinois, December 12, 1913. Meeting was called to order by the president, Dr. Howard Burns, in the City Council Chamber at 11:40 a. m.

Present: Drs. Burns, De Courcy, March, Squires and Jouett of Carrollton; Russell, Eldred, Chapman and Campbell, White Hall; Gobble, Greenfield; Thomas, Roodhouse; Hamilton, Roodhouse, visitor. Later Drs. McLaren and Frech, White Hall, and Dr. Smith, Roodhouse. Minutes of previous meeting read and after correction, were approved.

Dr. Chapman, committee on Constitution and By-laws, reported, turning over to the society one hundred copies printed by the *Journal A. M. A.*, and committee discharged.

Dr. Gobble read a paper on "Vaccines and Serums," which was discussed at length.

At 12:35 p. m., society adjourned for luncheon at the residence of Dr. and Mrs. C. R. Thomas.

Called to order again at 2:20 p. m., at City Council Chamber, society proceeded to election of officers for the ensuing year as follows: President, F. N. McLaren; first vice-president, Dr. L. O. Frech; second vice-president, Dr. C. R. Thomas; secretary and treasurer, Dr. H. A. Chapin; board of censors, Dr. Howard Burns, three years; Dr. H. W. Chapman, two years; Dr. F. H. Russell, one year. Drs. Frech and March acting as tellers.

Censors reported Carrollton as place of next meeting, with Drs. March, Frech and Smith as essayists.

Dr. F. H. Russell read a paper on "Neglected Details in Practice." Dr. E. E. Jouett read a paper on "A Short Criticism on the Practice of Telling People What They Are Taking." Dr. H. W. Chapman read a paper on "The Menace of Fashion."

These papers were discussed by all present.



A vote of thanks was tendered Dr. and Mrs. Thomas for their kind hospitality.

The president appointed Drs. McLaren, Frech and Squires on resolutions of regret on the death of Dr. E. H. Higbee, who reported the following, which was unanimously adopted:

*Resolved*, That inasmuch as this society has lost a member in the person of Dr. E. H. Higbee, who died at his home in Roodhouse, Illinois; that we, here in session assembled, express our sympathy to his family and friends.

*Resolved*, That this resolution be placed in our records, and that the secretary be instructed to send a copy to his family.

(Signed) L. O. FRECH, M. D.

JAS. SQUIRES, M. D.

F. N. McLAREN, M. D.

H. W. CHAPMAN, Secty, Pro tem.

Committee on Public Health and Legislation appointed by the president, Drs. Howard Burns, Carrollton; H. C. Campbell, White Hall; H. W. Smith, Roodhouse.

H. A. CHAPIN, Secty.

### JOHNSON COUNTY.

The Johnson County Medical Society met in regular session in Vienna, Ill., Nov. 19, 1913. The meeting was called to order by the president, A. I. Brown, M. D., of Vienna. The minutes of the preceding meeting were read by Secretary C. D. Nobles, M. D., of Buncombe, and approved by all members present.

The principal business of the meeting was the election of officers for the coming year, which resulted in the following named officers being elected: President, Dr. P. W. Rose, Cypress; vice-president, T. E. McCall, Vienna; secretary, Dr. H. J. Elkins, Vienna.

The following papers were presented: Dr. T. E. McCall on "Tuberculosis," Dr. P. W. Rose on "Puerperal Eclampsia," Dr. H. W. Walker on "How to Make a Better Medical Society."

Round table talk by all consisting of general business. The date and place selected for the next meeting is Vienna, Ill., on the 3rd Wednesday in February, 1914. Motion made and carried to adjourn.

DR. H. J. ELKINS, Secty.

### LAKE COUNTY.

The Lake County Medical Society held its regular quarterly meeting at the new Y. M. C. A. building in Waukegan on Friday, Jan. 16, at 5 p. m. After a short business session and the election of Drs. C. S. Ambrose and A. H. Claeboe of Waukegan as members, Dr. Hugh T. Patrick, the well known neurologist of Chicago, gave a very interesting and instructive talk for about an hour on "The Differential Diagnosis of Functional and Organic Nervous Diseases." He gave a practical

demonstration of the best way in which to obtain the deep reflexes, especially the knee and ankle jerk and how to make out accurately the borders of anesthetic and hyperesthetic areas, and gave several other valuable demonstrations. His remarks were enjoyed and appreciated by all.

Dr. Whalen, state president, then gave a short talk upon the work of the State Society, the importance of increasing the membership and giving better support to THE JOURNAL, and especially of laying aside all sectarian feeling and getting homeopaths and eclectics into the county societies.

An excellent supper was then served by the ladies of the Presbyterian Church and we all did full justice to the "eats."

Dr. Pence, our councillor, then made a few remarks, complimenting our society upon its excellent behavior and large membership in proportion to number of physicians in the county, (50 members, about 65 M. D.'s, all schools in the county, nearly 80 per cent), and handed the secretary a bouquet, alluding to him as a "live one" and always replying promptly to letters from the councillor. We then listened to some bright remarks and good stories by the toastmaster, Dr. Tombaugh, and some unusually excellent responses to toasts by four able representatives of different professions—"Religion and Medicine," by Rev. S. W. Chidester; "The Doctor in Court," Attorney Chas. H. King; "Physical Side of the Y. M. C. A.," by E. R. Gabsecht, Y. M. C. A. secretary, and "Need of a National Department of Health," by Dr. J. L. Taylor. Twenty-five members and guests attended the supper.

W. C. BOUTON, Secty.

### MORGAN COUNTY.

*Regular Meeting, Nov. 20, 1913.*

The regular monthly meeting and annual dinner of the Morgan County Medical Society was held on the evening of November 20, owing to Dr. Allports's lecture on "School Hygiene and Inspection of School Children" occurring on the 8th and the Clinical Congress of Surgeons meeting in Chicago the week of the 13th. The dinner and meeting were held at the Peacock Inn. Drs. Pitner, Norbury, Dewey, Bowe, Hairgrove, Scott, Gregory, Lowe, Baxter, Campbell of Whitehall, Eckman of Winchester, Roberts of Chapin, Jones of Woodson, Adams, Norris, J. M. Elder of Franklin; Baker, Cole, Wakely, Reid, Milligan, Pontius, Crouch, O'Reilly of Winchester; Franken of Chandlerville; Thomas of Roodhouse; Dollear, McLin, Myers, Woltman, Black, G. R. Bradley, W. H. Allyn of Waverly, and Stacy, had the pleasure of meeting Dr. Downey L. Harris of St. Louis, the guest of honor.

After an excellent dinner the president, Dr. Norris, called to order and the applications of Dr. Dollear and McLin were read to become members

and request for transfer for Dr. C. R. Lowe from Kankakee County Medical Society was asked for, after which Dr. Norris introduced Dr. Harris, who made a very interesting and profitable informal talk on "Treatment and Cause of Rabies."

Dr. Harris spoke at some length and increasing interest on the part of all demonstrated the effectiveness of his presentation. His method of preparing cord, brain and virus in vacuo was explained somewhat in detail. The material retains at least 50 per cent of its immunizing power for a long period and is comparatively inexpensive. It was thought by Harris that in a few months any physician can obtain immunizing material for possibly five dollars.

Dr. Harris touched on the symptomatology of rabies. As prophylactic measures, he advocated the destruction of stray dogs, and quarantine of suspicious dogs for ten days. Touching specific etiology, Harris said that Williams, Moon and Noguchi had probably demonstrated that negri bodies are one stage in the life of the protozoan, which is probably the cause of rabies. Material which is sent for examination should be sent in ice.

The anti-rabic treatment is not entirely without danger as paralysis sometimes occurs, although no cases have occurred treated by Harris' method. The paralysis of rabies is somewhat like Landry's in character.

"Dosage of Harris material" renders a large amount of immunity considering amount of material injected. Drs. Norbury, Baker, Bowe, Stacy, Adams, Allyn and others discussed Dr. Harris' paper. A resolution of thanks was unanimously given Dr. Harris for his presentation, after which adjournment was made.

#### *Regular Meeting Dec. 11, 1913.*

The annual meeting and election of officers was held at Medical Library, Thursday evening, December 11, at 8 o'clock. A letter of transfer from the Kankakee County Medical Society for Dr. C. R. Lowe was read, and Dr. Thomas G. McLin and Dr. Albert H. Dollear were also elected to membership. The annual reports of the treasurer, secretary and librarian were read, accepted and placed on file. Items of interest from the secretary's report were: Four clinical meetings held at the local hospitals; two public health meetings in cooperation with the Woman's Club, and eleven new members elected to membership. The librarian reported a number of substantial additions to the library.

The election of officers was held and resulted as follows: President, Dr. A. J. Ogram; vice-president, Dr. E. A. Foley; treasurer, Dr. A. L. Adams; secretary, Dr. George Stacy; librarian, Dr. Carl E. Black; censor, 3 years, Dr. D. W. Reid; delegate, 2 years, Dr. Carl E. Black; alternate, Dr. F. A. Norris. The following members were present: Drs. Crouch, Ogram, Norris, Foley, Black, Hair-

grove, Reid, Woltman, Adams, Gregory, Cole, Bowe, Spencer of Murrayville, Lowe, McLin and Stacy.

GEORGE STACY, Secty.

#### *Regular Meeting Jan. 8, 1914.*

The regular monthly meeting was held Jan. 8, at the Medical Library. The new president, Dr. A. J. Ogram, presided. Doctors present were: Pitner, Ogram, Black, Adams, J. M. Elder, Hardesty, Cole, Gregory, Crouch, Lowe, Woltman, Foley, Rowe and Stacy.

Dr. A. L. Adams reported a case of recurrent retinal hemorrhage and also severe pain in the ear with no cold or rise of temperature; tenderness present about the ear; hearing impaired; he thought there was a rupture of blood-vessel in the middle ear; patient refused to have the tympanic membrane incised. The patient was arteriosclerotic.

Dr. T. O. Hardesty reviewed the histories of epidemics of tonsillitis occurring in the large cities during the past few years and also cases occurring in his practice this fall and winter. He reported complications and sequellae in his cases as follows: Pneumonia, 4; high temperature (105.5) and delirium 1; otitis media, 1; cystitis, 2; hematuria, 1; erysipelas, 1; inflammatory erythema, 1; acute endocarditis, 4; arthritis, 1.

Many of the physicians present gave clinical reports of cases. Examinations of cultures and smears has revealed the usual varieties; staphylo-, pneumo- and streptococcic, while a few have been proved diphtheritic.

Dr. A. R. Gregory gave a general outline of treatment as follows: Rest, elimination, urotropin 5 or 10 grains several times daily, internally; small amounts of aspirin to combat pain; cold applications to the neck; ice per oram; dilute peroxide and alkaline gargles. Soft fluctuations should be opened for drainage. Local applications of iodine, guaiacol and silver nitrate 50 per cent, were mentioned in the discussion which was led by Dr. H. C. Woltman.

GEORGE STACY, Secty.

### OGLE COUNTY.

The regular meeting of the Ogle County Medical Society was held in the Supervisor's room, Oregon, October 15, 1913, at 1:30 p. m. Minutes of previous meetings were read by the secretary and approved.

Roll-call showed the following members present: Drs. Akins, Beveridge, Beard, Beebe, Brown, Griffin, Hedberg, Houston, Johnston, Byron; Johnston, Rochelle; Hanes, Kittler, Kretsinger, Stevens and Sheets. Visitors: Drs. Geo. E. Bushnell, Rochelle; Dudley M. Day, Rockford; J. A. Gardiner, Mt. Morris; Caldwell, Byron; Chas. W. McPherson, Hazelhurst; E. B. Owens, Dixon; M. Milton Portis, Chicago; T. I. Packard, Lanark, Stevenson, Dixon; S. C. Thompson, Byron, and J. H.



Stealy, Freeport. The name of Dr. W. W. Hanes, Mt. Morris, was presented for membership. On motion the doctor was unanimously elected a member of the society.

Program: Dr. Dudley W. Day, Rockford, gave an instructive lecture on "Medical Inspection in the Public Schools." This lecture proved to be an excellent drawing card for those not directly connected with the society. The city school was closed and the entire corps of teachers, some 12 or 14 were present. County Superintendent Cross, principals of other schools and members of school boards were present. Judge Herd of Freeport, who was holding Circuit Court, after dismissing court was also present. The discussion opened by Dr. J. H. Stealy, Freeport, was interesting and well appreciated by all present.

The next lecture was given by Dr. M. Milton Portis, Chicago, Professor of Medicine, Rush Medical College. Subject, "The Diagnosis and Treatment of Diseases of the Stomach." The lecture was illustrated by the Roentgen ray slides taken after a bismuth meal. After the ray slides were shown, Dr. Portis confined his lecture more particularly to the diagnosis and treatment of gastric ulcers. As the doctor had to leave on an early train, this important paper was not discussed. Motion made by rising vote that we extend our appreciation to Drs. Day and Portis for their excellent lectures, and also extend same to visiting friends, carried unanimously.

The applications of Drs. J. A. Gardiner of Mt. Morris, and I. C. Thomson, Byron, were received. The meeting was one of the most successful the society has ever held and did much to enthuse the members for still better work to come. During the year, thirteen new members have been added to the organization.

No further business to come before the society the meeting was adjourned to meet at its regular session the third Wednesday in April, 1914.

DR. J. T. KRETSINGER, Secty.

### WINNEBAGO COUNTY.

The Winnebago County Medical Society met in annual banquet at Nelson House Ordinary, Jan. 13, 1914. Members present, 30; visitors, 2.

During the banquet the president called upon Drs. Betty Nelson, Horace Starkey and W. G. Hatch for short talks. Miss Nelson gave the society an interesting picture of the crude manner in which disease is treated by the natives of India. She explained especially the manner in which they handle obstetrical and fever cases. Dr. Nelson has spent five years in India as a medical missionary and is on a furlough of one year in Rockford, her home city, before she again returns to her arduous work. Drs. Starkey and Hatch spoke on better fellowship and organization within the society, laying particular stress on better attendance at

the meetings. All the talks were warmly applauded.

Following the banquet the society was called to order by Dr. Emil Lofgren, president. The minutes of the previous meeting were read and approved. The secretary-treasurer's report for year 1913 was read. The president appointed Drs. Kinley and Gerald Allaben to audit the report. The election of officers for the present year resulted as follows:

Dr. E. E. Ochsner, of Rockford, president; Dr. Geo. P. Gill, of Rockford, vice-president; Dr. C. M. Ransun, of Rockford, secretary-treasurer; Dr. Horace Starkey, delegate, and Dr. W. Cunningham, alternate delegate to the state meeting.

Dr. Betty Nelson was given a vote of thanks for her interesting talk. Dr. Emil Lofgren, the retiring president, emphasized the difficulty of producing good programs hand in hand with poor attendance at the society meetings. He, however, thanked those who had been faithful and urged upon the new members taken in during the year to be active in the society's welfare. On motion of Dr. Geo. Gill, the retiring officers were given a rising vote of thanks. Dr. E. E. Ochsner then took the chair and offered some very practical suggestions towards increasing the interest in the society. Upon suggestion from the president it was decided to call the meetings to order at 8:30 p. m. Adjourned.

C. M. RANSEEN, Secty.

### Personals

Dr. J. Sheldon Clark, Freeport, has returned from Europe.

Dr. Simon P. Brown, one of the oldest practitioners of Elgin, is reported to be seriously ill at his home.

A farewell reception was given Dr. and Mrs. George A. Zeller at the Peoria State Hospital, December 18.

Dr. Antonio Lagorio was guest at a dinner given by the Italian Chamber of Commerce at Chicago, January 17.

Dr. H. J. Burwash, Chicago, announces the removal of his residence to 4342 Sheridan road. He continues the office at 29 East Washington street.

Dr. Daniel Lichty has been elected president, Dr. Harry A. Pattison, secretary, and Dr. William E. Park, treasurer of the Rockford Public Tuberculosis Hospital trustees.

Dr. L. S. Gabby of the Kankakee State Hospital will assume charge, some time this month, of the pathologic and research laboratory estab-

lished and equipped by Drs. O. L. Pelton, Sr. and Jr., of Elgin.

Dr. Charles J. Rowan, Chicago, has been appointed head of the department of surgery at the State University of Iowa, Iowa City, to succeed Dr. William Jepson, Sioux City, resigned.

Dr. R. O. Hawthorne, Northwestern University, '13, has located in Roodhouse in offices formerly occupied by Dr. Higbee, and has received the appointment of surgeon for the Chicago and Alton railroad.

Dr. G. W. Brown, Rockford, answering an invitation to join the Illinois State Medical Society, thanked Dr. Stealy for the invitation, but said that as he was in his ninety-fourth year and long out of practice, membership would be of no practical value to him.

Dr. J. P. Riggs, of Media, Henderson county, announced his candidacy for the democratic nomination for congressman-at-large. Dr. Riggs is endorsed by the medical profession of his own county and section of Illinois, the doctors believing that they should have representation in a state like Illinois.

—*From The Rock Island Argus.*

## News Notes

—The Richard Arthur Wells Memorial, Bethlehem Creche, was opened at Fifth avenue and West Fifty-third street, Chicago, January 10, in a new building.

—Dr. John E. Owens, for more than twenty-five years chief surgeon of the Chicago and Northwestern System, has been appointed consulting surgeon of the road and Dr. Clarence W. Hopkins has been promoted to chief surgeon.

—Col. S. C. Stanton, surgeon-general of the Illinois National Guard, has been retired at his own request. Licut.-Col. G. P. Marquis has also been retired at his own request. Major Jacob Frank has been appointed surgeon-general, with the rank of lieutenant-colonel.

—A new seven-story Home of the Training School for Nurses of the Presbyterian Hospital, Chicago, was opened December 31, with accommodations for 160 nurses. It is a memorial to the late Otho S. A. Sprague and represents an investment of \$350,000.

—Mr. Charles Alling, attorney for the Illinois

State Board of Health, lost his right eye as the result of a shot, Dec. 4, by a man who had been convicted of practicing without a license. It is said that Mr. Alling was on the point of agreeing to a minimum fine in the case. The quack then killed himself.

—At the annual meeting of the State Board of Health held in Springfield, January 13, the board reorganized, electing Dr. John A. Robison, Chicago, president, as successor to Dr. George W. Webster. The present personnel of the board is as follows: Drs. A. Szwajkart, Chicago; R. D. Luster, Granite City; T. B. Lewis, Hammond; John A. Robison, Chicago; James J. Hassett, McLeansboro, and T. O. Freeman, Mattoon.

—The State Civil Service Commission has named a permanent medical board to have charge of its medical examinations in the future. The board consists of Dr. James B. Herrick, Chicago, chairman; Drs. Thomas H. Culhane, Rockford, and Dean D. Lewis, Chicago, surgery; Drs. Geo. F. Suker and William D. Napheys, Chicago, medicine; Dr. Ludvig Hektoen, Chicago, pathologist, and Drs. James C. Gill and L. Harrison Mettler, Chicago, and Harold D. Singer, hospital, nervous and mental diseases.

—The Board of Education in Chicago has at different times honored eminent physicians by naming schools for them. The Daniel Brainard school has long borne testimony of the veneration in which his name is held as one of the pioneers in medicine. Later N. S. Davis was similarly honored. Last year the modern Nicholas Senn High School was opened with splendid facilities and it has just graduated its first class, who will doubtless cherish the great name of their Alma Mater. It is now proposed to name a high school under construction for Christian Fenger, the great pathologist and surgeon. No name stands higher in the roll of great physicians of Illinois and every student who knew him will appreciate this mark of recognition of his genius and untiring energy.

## Public Health

—The December *Bulletin* of the Chicago Tuberculosis Institute contains the report on Cook County Tuberculosis Hospitals by a special committee which investigated the institutions and recommended certain changes and improvements.



Conditions at Oak Forest, Dunning and the Tuberculosis department of the County Hospital were found deplorable in regard to facilities of every kind, food, nursing and medical attendance. Recommendations were made to the president and members of the Board of Cook County Commissioners in detail as to the actual needs of these institutions. The question of equipment and medical and nursing attendance was worked out elaborately so as to show the number required, salaries, etc. The document shows thorough work by experts not afraid of giving time and thought freely for the best interests of the tubercular charges of the county. The committee membership included Dr. T. B. Sachs, chairman, Drs. Ethan A. Gray and Stephen H. Pietrowicz and Mr. James Minnick, secretary.

—The *Bulletin* of the North Shore Branch notes that the movement now on foot to establish three contagious disease hospitals in Chicago was originated by Dr. Martin M. Ritter, now president of the branch, two years ago. The propaganda committee has arranged for vigorous agitation of this subject and has combined with it a scheme of popular lectures on health topics to be given by physicians in school houses and social centers.

Deaths reported during the year 1913, compared with the preceding year. Death rates computed on estimates of mid-year populations furnished by U. S. Bureau of the Census, 2,344,018 for 1913, and 2,294,711 for 1912.

	1913.	1912.	1913.
			Increases
Deaths, all causes (excluding still-births).....	35,291	33,998	1,293
Death-rate per annum, per 1,000 of population .....	15.05	14.68	0.37
Important causes:			
Typhoid fever .....	246	173	73
Smallpox .....	1	7	*6
Measles .....	288	119	169
Scarlet fever .....	906	602	304
Whooping cough .....	101	140	*39
Diphtheria and croup .....	969	950	19
Influenza .....	84	64	20
Rabies .....	2	8	*6
Tetanus .....	33	28	5
Pellagra .....	4	7	*3
Tuberculosis (all forms).....	3,848	3,750	98
Pneumonia (all forms).....	4,867	5,056	*189
Cerebrospinal fever .....	58	40	*18
Anterior poliomyelitis .....	3	18	*15
Diarrheal diseases (under 2 years).....	3,253	3,073	180
Congenital defects and accidents.....	2,033	1,757	276
Sunstroke .....	75	27	48
Under 1 year.....	6,949	6,709	240
1 to 5 years.....	3,589	3,299	290
5 to 10 years.....	1,197	1,030	167
10 to 20 years.....	1,354	1,292	62
20 to 30 years.....	2,950	2,884	66
30 to 40 years.....	3,416	3,438	*22
40 to 50 years.....	4,093	3,891	202
50 to 60 years.....	4,248	4,002	246
60 to 70 years.....	3,645	3,479	166
70 to 80 years.....	2,626	2,662	*36
Over 80 years.....	1,224	1,312	*88

—From *Bulletin*, Chicago Department of Health.

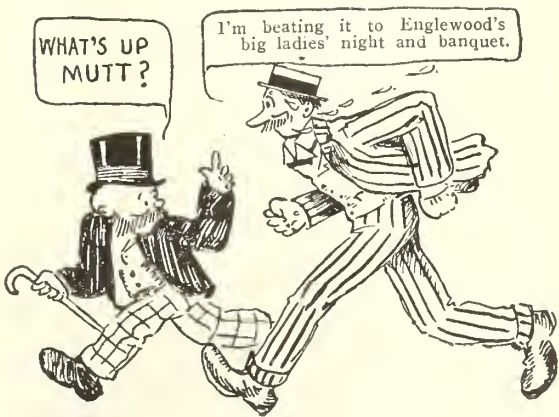
\*Decrease.

—The *Madison County Doctor*, always a welcome visitor, has a fine likeness of Dr. Edgar Allen Cook, president of the society, and it prints an enviable amount and variety of personals. Would that the spirit might move our members to contribute as many to the *JOURNAL* of general interest.

—The *Streator Medical Club* sends a card ready punched for hanging up on the desk (it could be worn in the hat) with the programs for ten meetings extending over the next five months, and with two subjects assigned for each meeting. The variety of subjects promises an interesting time “every time” and the secretary is wise enough to add: “Each member is expected to have his paper so that it can be read by the secretary in case he is unable to be present.” That provision would have saved the day many times when urgent calls have played havoc with the program.

—Dr. E. W. Brooks, secretary of the Effingham County Medical Society, issued two circular letters to the members of the society, setting forth the dangers that threaten the profession and calling on them to assert their rights and especially to attend the meetings. One of the subjects to be taken up is the “fee bill,” now a burning question since living expenses have risen so greatly while the fees for medical services have remained low.

—The *Englewood Branch News-Letter*, number 4, contains the usual program and write-up of past meeting, but number 5 is an extra announcing a special “Ladies’ Night” and Bosler fairly boiled over in wit and poetry stimulated by the anticipated pleasures of the banquet. If it had been after the banquet—“but that’s different again.”



—*News-Letter*.

—The Wisconsin eugenics law has been held unconstitutional by Circuit Judge Eschweiler of Milwaukee. He holds that the law requires a Wasserman test, a provision that the attorney general is said to have advised ignoring, and further that it is violative of the constitution and conflicts with religious liberty, because it tends to restrict marriage. While praising the intention of the law to prevent undesirables from marrying, the judge holds that the duty of the state in the premises is to assume the burden of weeding out the unfit and not to cast on the fit an unfair demand and thus materially impair an inalienable right. The physician's fee of \$3 was held to be unreasonable. The attorney general, W. C. Owen, has issued an order directing District Attorney E. J. Yokey of Milwaukee county to take an appeal. The *Chicago Journal*, commenting on the decision, says: "The way to begin eugenic legislation is to segregate all feeble-minded persons during the reproductive period of their lives. By the time this is done, it is possible we may know enough of heredity to justify taking similar precautions with some varieties of criminals and insane persons. But for many decades to come, the raising of marriage standards must be left to educators, not to lawmakers."

—The ordinance introduced by Alderman Nance, prohibiting Chicago newspapers from advertising quacks, fake auctions and bankrupt and fire sales, is now in effect. The Advertisers' Club has approved the measure, the only member opposing it being a representative of the *Examiner*. With the opportunity for advertising gone quackery has lost its chief stock in trade, but while the leaven of clean advertising is working slowly the country is full of sheets, lay and medical, that sell their space regardless of ethics, on the old principle of "cave emptor."

### Marriage

CLIFFORD RUSH ESKEY, M. D., to Miss Mae Bogert of Chicago, January 1.

ADOLPH B. OYEN, M. D., to Miss May Johnson, both of Chicago, January 15.

JOHN EDWARD CLARK, M. D., to Miss Evelyn Brogley, both of Streator, Ill., December 10.

ALBERT S. STEINER, M. D., to Mrs. Etta V. Houts, both of St. Louis, at Chicago, December 6.

EPHRIAM KIRKPATRICK FINDLAY, M.D., to Miss Irene Nelson, both of Chicago, October 22.

RALPH CRISSMAN BROWN, M.D., to Miss Marion Phoebe Mills, both of Chicago, December 2.

W. W. EVERETT, M. D., Highland, Ill., to Miss Laura Vulliet of St. Louis, at Hope, Ark., January 8.

EUGENE A. MACCORNACK, M.D., Chicago, to Miss Harriet L. Heibner of Glencoe, Ill., September 5.

HERMAN C. TIETZE, M.D., to Miss Maude O. Buxton, daughter of Dr. W. E. Buxton, both of West Salem, October 29.

WILHELM LUDWIG BAUM, M.D., to Mrs. Mervyn Winston Lawrence, both of Chicago, in New York City, November 24.

WILLIAM STANLEY TIMBLIN, M.D., Chicago, to Miss Frances Ray Goldsworthy of Windsor Park, Chicago, November 22.

### Obituary

#### DR. JOSEPH W. NEWCOMER.

Dr. J. W. Newcomer, son of Joseph L. and Maria Newcomer, was born in Chester county, Pennsylvania, Sept. 17, 1838. His preparatory education was received at Fremont Academy, near his home. He commenced the reading of medicine with Dr. Morris Fussell of Chester Springs, Pa. Later he matriculated as a student in Jefferson Medical College at Philadelphia, where he was graduated in the class of 1864. He often referred to those early days with a wish that he might have received a more thorough training in the liberal arts. But during the years of his busy life he found time for wide reading and came to his later years with a fine understanding of the problems of human life and a remarkable interest in the past and present of the world's life. He read widely not only in medicine, but in mathematics, science, philosophy, history and theology. In April, 1864, he was commissioned as assistant surgeon in the regular navy of the American government. The document showing forth this commission bears the signature of Abraham Lincoln. Not being satisfied with a position in the navy as his life work he tendered his resignation while on duty in the naval hospital at New Orleans. This was accepted in 1865, whereupon in the following



year he took up his residence in Petersburg, and since July 19, 1866, he ministered continuously as a physician and surgeon in this community. In his professional career he enjoyed the full confidence of a large number of homes not only in Petersburg, but to the very ends of Menard county, and beyond its limits. His wide acquaintance with the medical men in adjoining counties and his reputation as a practitioner took him to many places of this part of the state at the call for his help. Concerning his experience as a doctor he seldom spoke, excepting to tell of the hardships which doctors of a former day were called upon to endure in the faithful discharge of their mission. He took an active inter-

est in the welfare of the community and entered heartily into its social privileges. He was a member of Clinton lodge, A. F. and A. M. and of the Peoria consistory; also of Salem lodge, 123, I. O. O. F., and of Estill Post, G. A. R. His membership was for a time with the Methodist congregation and later with the Presbyterian church. His death occurred January 14, 1914.

## Deaths

### DR. W. K. NEWCOMB.

While the death of Dr. W. K. Newcomb of Champaign, Ill., will be noted with deep regret over the entire state of Illinois, Vermilion county, next to Champaign, will feel his loss the most keenly.

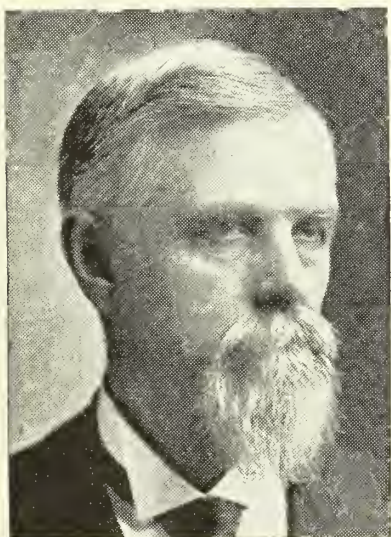
While attending a convocation of "The American College of Surgeons," of which he was a fellow, in Chicago, on November 13th, he was stricken with pneumonia which some days later caused his death.

Dr. Newcomb graduated from Rush Medical College in 1882, and after actively engaging in the practice of medicine at Fisher, Ill., until 1896, he sold his practice, and, after having spent one year abroad in the study of medicine, located in Champaign, Ill.

Dr. Newcomb was always prominently identified with local charities and public movements. He helped found the school for nurses at Burnham Hospital, was one of the founders and was a director in the Anti-Tuberculosis Health League, was a trustee of the Garwood Old Ladies' Home, was an executive committee member and one of the organizers of the United Charities, and was a prominent member of the Champaign Chamber of Commerce.

For about twenty-five years he had been a member of the Methodist-Episcopal church, having joined at Fisher. He was also a member of the I. O. O. F. lodge at Fisher, which society he helped to organize, and which he served as presiding officer. He was also a member of Fisher Encampment and its first presiding officer. He once served as master of Fisher Lodge, A. F. and A. M. He was also a member of Champaign, Chapter R. A. M., and of Champaign Commandery Knights Templar, and Modern Woodmen.

While himself an untiring worker, always



Joseph W. Newcomer, M. D., 1838—1914.

est in the work of and was a member of the Menard County Medical Society, the Brainard District Medical Society, the Illinois State Medical Society and the American Medical Association. He was the recipient of the respect and thoughtful appreciation of his colleagues. On Dec. 5, 1867, he was joined in marriage with Eliza Jane White, who was called away April 17, 1881. Of the eight children born to them, six survive him: Albert and Joseph of Checotah, Okla.; Dr. Irving and Miss Jean of Petersburg; Dr. Paul of Gillette, Wyo., and Dr. Nathan of Sundance, Wyo.

The last twenty-eight years of his life were spent in happy companionship with Sarah E. Jenkins, who became his wife Oct. 14, 1885, and who also survives him. He took an active inter-

alert, confident and efficient, Dr. Newcomb never lost sight of the interests in his profession.

That the profession recognized his ability and his usefulness was evidenced by the many responsibilities placed upon him. In 1911 he was president of the Illinois State Medical Society. He was at one time president of his county society; also of the Aesculapian Society of the Wabash Valley, the oldest medical society west of the Allegheny mountains; but it was as Councilor for the 8th District that Vermilion county physicians knew him the best.

Those members of the profession who were identified with the early struggle for organization, remember him as conservative, courageous and zealous; quiet, dignified and fair; strong in his convictions, loyal to principle, and with judgment and an insight into the future almost prophetic.

His were high ideals for the profession and the splendid condition of those societies with which he labored bear witness that his faith in the profession was well founded.

Nothing could turn his head. Professional success, social position, civic importance, fraternal honors all came as a matter of course. He was always W. K. Newcomb.

The profession of the State of Illinois and particularly of this immediate locality, owes much to this able, earnest man, whose unflinching loyalty to its interests and unselfish devotion to duty as he saw it marked him a leader. Long live the tenderest memories of this kind, courteous, scholarly gentleman and friend.—*From Bulletin of the Vermilion County Medical Society.*

DANIEL B. BOBB, M.D., Northwestern University Medical School, Chicago, 1864; for nearly half a century a practitioner of Dakota, Ill.; died at his home, November 14, aged 76.

ADOLPH J. BROELL, M.D., Northwestern University Medical School, 1892, of Chicago; a Fellow of the American Medical Association; died in the German-American Hospital, Chicago, November 30, from typhoid fever, aged 43.

ALBERT CURTISS BROWN, M.D., Bellevue Hospital Medical College, 1873; for fifteen years a practitioner of Chicago; died at his home in North Yakima, Wash., November 6, aged 64.

EDWARD J. FISCHER, M.D., Rush Medical Col-

lege, 1880; died at his home in Chicago, November 7, aged 65.

PETER FISHER (license, years of practice, Illinois, 1878); for fifty years a practitioner; died at his home in Edwardsville, October 29, from uremia, aged 74.

HARRY M. HAYES, M.D., Rush Medical College, 1894; a Fellow of the American Medical Association, and President of the Peoria City Medical Society; formerly commissioner of health in Peoria; died in the Proctor Hospital in that city, December 2, from typhoid fever, aged 42. At a meeting of the Peoria City Medical Society, December 6, resolutions of regret and sympathy were unanimously adopted.

FREDERICK R. HUNT, M.D., Northwestern University Medical School, Chicago, 1888; for several years a practitioner of Austin, Chicago; died suddenly at his home in California, August 30, from angina pectoris, aged 52.

JOHN KEMPER, M.D., Illinois Army Board, 1864; Long Island College Hospital, Brooklyn, N. Y., 1867; surgeon of the Twenty-Eighth Illinois Volunteer Infantry during the Civil War; died at his home in Galesburg, Ill., November 28, aged 80.

EDWARD C. LEMEN, M.D., Washington University, St. Louis, 1868; for forty years a practitioner of Alton, Ill.; a veteran of the Civil War; died in a sanatorium in Jacksonville, November 9, aged 72.

JOHN HINTON LOWRY, M.D., Rush Medical College, 1877; formerly of Sterling, Ill.; died at his home in Reedley, Cal., about November 5.

JOHN T. McANALLY, M.D., Northwestern University Medical School, 1883; a Fellow of the American Medical Association; of Carbondale, Ill.; formerly mayor of that city; for two terms a member of the Illinois State Board of Charities; at one time president of the Illinois State Medical Society, councilor of the Ninth Illinois District, and a member of the House of Delegates of the American Medical Association; one of the best known practitioners of Southern Illinois; died in the Presbyterian Hospital, Chicago, November 19, aged 65.

DENIS MORIN, M.D., Hahnemann Medical College, Chicago, 1884; died at his home in Chicago, November 14, aged 72.



## Book Notices

**DORLAND'S AMERICAN ILLUSTRATED MEDICAL DICTIONARY.** A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Science, Nursing, Biology, and kindred branches; with new and elaborate tables. Seventh Revised Edition. Edited by W. A. Newman Dorland, M. D. Large octavo of 1,107 pages, with 331 illustrations, 119 in colors. Containing over 5,000 more terms than the previous edition. Philadelphia and London: W. B. Saunders Company, 1913. Flexible leather, \$4.50 net; thumb indexed, \$5.00 net.

The enormous additions to the terminology of the newer fields of science, such as serology, pathologic chemistry, experimental medicine, physiology, make demands on the lexicographer. To keep abreast of the newer medical literature, a new dictionary is in constant demand. From a list of words taken from the literature of the Seras and Vaccines, few, if any, will be found in a dictionary of six or eight years ago.

Dorland's Dictionary is of convenient size, concise, and remarkably complete. It is a working dictionary—not an encyclopedia. The book maker has shown his skill in the mechanical make-up.

**A TEXT-BOOK OF THE PRACTICE OF MEDICINE.** By James M. Anders, M. D., Ph. D., LL. D., Professor of Medicine and Clinical Medicine, Medico-Chirurgical College, Philadelphia. Eleventh Edition Thoroughly Revised. Octavo of 1,335 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$5.50 net; half Morocco, \$7.00 net.

Anders' Text-Book of Medicine is too well known to need comment. The fact that it has run eleven editions proves its place in medical literature without question. The earlier edition has again been revised and brought down to date. Perhaps no other monograph on medicine is more complete. In reading the various chapters one must notice the attention the author has given to symptomatology and differential diagnosis.

Another feature of the work is the fairly generous space given to treatment. The age of surgery has created so many therapeutic pessimists that medical men are feeling the lack of attention given by authors and scientists to medical therapeutics.

Every physician and every student should possess a copy of this excellent work.

**THE SURGICAL CLINICS OF JOHN B. MURPHY, M. D.,** at Mercy Hospital, Chicago. Volume II, Number VI (December). Octavo of 186 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Published bi-monthly. Price per year: paper, \$8.00; cloth, \$12.00.

This number of Murphy's Clinics sustains the popularity of former numbers. It is full of interesting subjects, treated in Murphy's masterful way.

Tuberculosis is discussed generously together with the production of artificial pneumothorax by injection of nitrogen for the cure of the pulmonary varieties. Laminectomy for tuberculosis of spinal column with compression of spinal cord, and subcutaneous abscess following tuberculosis of the spine are presented.

Among the other subjects are Bone Cyst, Pyonephrosis, Exostosis of Radius and Ulna, Ununited Fracture of Radius, Ankylosis of Elbow, Undescended Testicle in Inguinal Canal, Cholelithiasis, Carcinoma, and Sarcoma of Femur.

Perhaps one of the most useful chapters in this number is one illustrating Dr. Murphy's method of teaching.

**A TEXT-BOOK OF PHYSIOLOGY;** for Medical Students and Physicians. By William H. Howell, Ph. D., M. D., Professor of Physiology, Johns Hopkins University, Baltimore. Fifth Edition Thoroughly Revised. Octavo of 1,020 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$4.00 net; half Morocco, \$5.50 net.

Fresh from the press of W. B. Sanders Company comes the Fifth Edition of Howell's Text-Book of Physiology. While it is a work intended primarily for the medical student, it is well adapted to the needs of the practitioner.

In no branch of medical science has there come in a few years more knowledge or changes in theory, upsetting formerly accepted formulas, and bringing forth new facts and new principles. Facts of yesterday are relegated theories today; theories of yesterday (some of them) are facts today, and thus the changes come. The basis of all medicine is physiology, hence, the necessity of new work, new experiments, and new *editions*. Compare our knowledge of metabolism of twenty and ten years ago with that of today, and still what know we of metabolism. The volume of scientific physiologic experimentation has been so great that no monograph could well give in detail anything like a complete outline of it. This the author has felt and has not attempted to accomplish, but rather has given the student the elementary facts, and has indicated where there may be need of further investigation.

The author has also tried to show the student the unsolved problems of today, and has discussed to some extent the theories of today which are not proven facts.

Altogether the work is commendable, and both student and practitioner will find the book of great service.

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### SAUNDERS' QUESTION COMPENDS.

**ESSENTIALS OF BACTERIOLOGY.** By M. V. Ball, M. D., formerly Instructor in Bacteriology at the Philadelphia Polyclinic. Seventh Edition, revised. Assisted by Paul G. Weston, M. D., Pathologist State Hospital for Insane at Warren, Pa. 12mo. of 321

pages, with 118 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$1.00 net.

**ESSENTIALS OF GYNECOLOGY.** By Edwin B. Cragin, M. D., Professor of Obstetrics and Gynecology, College of Physicians and Surgeons, New York. Revised by Frank S. Mathews, M. D., Assistant Professor of Clinical Surgery, College of Physicians and Surgeons, New York. Eighth Edition Thoroughly Revised. 12mo. of 240 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$1.00 net.

**ESSENTIALS OF NERVOUS DISEASES AND INSANITY.** By John C. Shaw, M. D., late Clinical Professor of Diseases of the Mind and Nervous System, Long Island College Hospital. Fifth Edition, Thoroughly Revised, by Louis Casamajor, M. D., Chief of Clinic, New York Neurological Institute. 12mo. of 187 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$1.00 net.

These little volumes are very useful to the medical student, and are especially valuable to those who wish to make a hurried review before taking an examination.

The work is placed before the reader in a systematic manner—brief and to the point. The practitioner may in a few minutes' time refresh his memory on the important points of a question.

Each of the volumes fills the purpose for which it was written in a very creditable way.

**CLINICAL DIAGNOSIS AND ANALYSIS.** By James R. Arneill, A. B., M. D., Professor of Medicine and Clinical Medicine in the University of Colorado, and Physician to the Denver County Hospital and the St. Joseph and St. Luke's Hospitals of Denver. New (2d) edition, revised and enlarged. 12mo., 270 pages, with 83 engravings and a colored plate. Cloth, \$1.00 net. *The Medical Epitome Series.* Lea & Febiger, publishers, Philadelphia and New York. 1914.

One of the most useful little books we have seen for the practitioner who does his laboratory work. It is brief yet very clear, and illustrates the work splendidly. It is an excellent laboratory guide to the medical student, and furnishes a means of quick review of the subject. Particularly practical are the sections on Examination of the Stomach Contents, Serum Reactions, including Widal, Wassermann, Noguchi tests.

**GENITO-URINARY DISEASES AND SYPHILIS.** By Edgar G. Ballenger, M. D., Adjunct Clinical Professor of Genito-Urinary Diseases, Atlanta Medical College; Editor Journal-Record of Medicine; Urologist to Wesley Memorial Hospital; Genito-Urinary Surgeon to Davis-Fisher Sanatorium; Urologist to Hospital for Nervous Diseases, etc., Atlanta, Ga., assisted by Omar F. Elder, M. D. The Wassermann Reaction by Edgar Paullin, M. D. Second Edition

Revised. 527 pages with 109 illustrations and 5 colored plates. Price, \$5.00 net. E. W. Allen & Co., Atlanta, Ga.

This revision brings the work down to date. It seems to cover the entire field of Genito-Urinary Diseases, and discusses the newest therapy of all pathologic conditions.

The work will appeal to students. It is rather brief and not loaded with long, fine-spun theories, thus giving the medical student opportunity to cover the subject in his limited time. The illustrations are numerous. The practitioner will find it a useful book.

**ANNUAL REPORT OF THE BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS,** for the Fiscal Year, July 1, 1912, to June 30, 1913. The Government of the Philippine Islands, Department of Interior, Bureau of Health. Victor G. Heiser, M. D., Director of Health, Surgeon, United States Public Health Service. Manila Bureau of Printing. 1913.

This publication not only contains valuable information for the medical profession, but also is very instructive to any one interested in civics. It is principally composed of reports and statistics covering the last fiscal year.

The first 133 pages show the work that has been done by the government during the year to eliminate the causes responsible for plagues, epidemics, and contagious diseases so prevalent in the Philippine Islands. Following these subjects is an account of the efforts put forth to ameliorate sanitary and moral conditions and alleviate suffering among the natives.

Thirty pages are devoted to the Reports of Divisions, District Health Officers and Boards of Examiners, embodying comparative statements of conditions and improvements inaugurated in the different provinces.

One hundred pages are given to vital and general statistics for the Philippine Islands, including the monetary expenditures for the maintenance of the various departments.

The detailed information compiled in these statistics gives one an idea of the immense and commendable work that is carried on by the government, and is indicative of an able regime.

For the convenience of the reader there is an index with subjects so arranged that they may be readily found.

**ANNUAL REPORTS 1912 AND 1913,** United Fruit Company, Medical Department. Courtesy Dr. Robert E. Swigart, General Superintendent Medical Department.

These extensive reports are very interesting, dealing, as they do, with the medical question of the tropics and covering a large field. The service includes the care and treatment of the 65,000 employes in Central and South America, Cuba and the West Indies.

Dr. Swigart, in his report, pays homage to Dr. Walter Reed and his corps of heroes.



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXV

CHICAGO, ILL., MARCH, 1914

No. 3

## Original Articles

### REPORT OF A CASE OF MEMBRANOUS PERICOLITIS — DIAGNOSIS CON- FIRMED BY ROENTGENOG- RAPHY AND LAPAROTOMY.

AIMÉ PAUL HEINECK, M. D., CHICAGO, ILL.

Oftentimes, the presence of pain and tenderness in the right iliac quadrant leads the surgeon to make hastily the diagnosis of appendicitis. Not very infrequently, this hastily-made diagnosis is a mistake due to one or more factors: superficial examination of the patient, non-utilization of the more modern diagnostic aids (the X-rays especially), lack of sufficient knowledge of such congenital or acquired pathologic entities as occur within the abdominal cavity, etc.

It is not rare to meet patients in whom the successful, though needless, removal of a normal appendix has not been followed by any improvement in health; nor is it uncommon to meet patients to whom the successful removal of a diseased appendix has brought only a partial alleviation of the abdominal discomfort of which they previously complained.

A more thorough examination of these unrelieved or only partially relieved patients shows that the existence or co-existence of one or more of the following pathologic conditions: disease of the gall-bladder and biliary tracts, abnormally movable right kidney, right adnexal disease, enterocolitis, Lane's kink, Jackson's pericolic membrane, etc., was not recognized either previous to, or at the time of, the removal of the appendix. It goes without saying that any of the aforementioned conditions may co-exist with an appendicitis or may exist in the absence of any pathologic alteration of the appendix.

The increasing frequency of these humiliating diagnostic errors and unfortunate operative fail-

ures led Jackson<sup>1</sup> to publish some interesting observations proving that "in cases of membranous pericolicitis, the patients are not often cured by the removal of the appendix vermiformis but they can be cured by the removal, partial or complete, of this adventitious peritoneum"; led Mayo<sup>2</sup> to write a paper earnestly recommending "that the terminal four inches of the ileum be examined in all cases where it is convenient to do so when the abdomen is open, and especially should this be done when the condition of the appendix at operation does not show sufficient change to account for the serious symptoms which demanded operative procedures."

The importance of correct pre-operative diagnosis is emphasized by the fact that the surgeon naturally selects the incision which affords the easiest access to the seat of disease.

In abdominal operations, that incision is most appropriate which best fulfills the following two desiderata: minimal weakening of the abdominal wall and easy exposure of the involved tissues or organs.

I find that button-hole sized incisions and McBurney's muscle-splitting operation, though well adapted to many cases of non-suppurative appendicitis, are to be rejected in cases of appendicitis complicated by pus formation or in those in which the location of the appendix is anomalous. Furthermore, the fore-mentioned incisions possess the disadvantage of not allowing easy correction of a Lane's kink or exposure and removal of a Jackson's membrane. In cases diagnosed appendicitis which do not present well-marked clinical symptoms of that disease, I find it helpful to employ, in the female, an infra-umbilical median incision and, in the male, a vertical incision in or near the right linea semi-

1. Jackson: Membranous Pericolicitis, *Western Surg. and Gynec. Trans.*, 1908, p. 209.

2. Mayo, Chas. H.: Intestinal Obstruction Due to Kinks and Adhesions of the Terminal Ileum, *Surg., Gynec. and Obst.*, 1911, XII, 227.

lunaris, the length of the incision being determined by the exigencies of the individual case.

Mr. Nick Thal, aged 42 years, stable-man by occupation, was admitted to the Cook County Hospital (case No. 510,338) with the diagnosis of chronic intestinal obstruction, duodenal ulcer and cholangitis. The patient does not recall ever having been sick previous to his present trouble. During the last two years, he has suffered from chronic constipation and from a constant diffuse dull pain in the right side of abdomen. This pain varies in intensity and is oftentimes accentuated over cecum and hepatic flexure. During this period, he has lost about seven pounds in weight. Most of the time, he is troubled

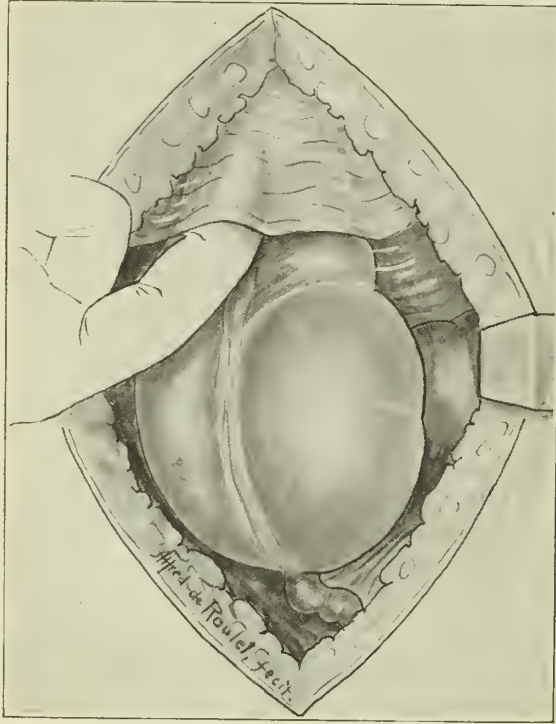


Fig. 1.—Finger Passed Beneath Membrane.

with peculiar sensations in the head and dizziness and ringing in ears. No history of chills or vomiting; coughs very little; never has had hemoptysis.

Examination: head and neck, negative; heart, negative; lungs, area of diminished resonance over left lung anteriorly and a few mucous râles; abdomen, whole right side is painful, no rigidity. When patient takes a deep breath, right kidney is distinctly palpable; the cecum is enlarged and plainly palpable as a tender, firm, elongated mass.

Repeated examinations of the sputum never showed the presence of tubercle bacilli. The urine, outside of an occasional granular cast, gave the normal findings. Examination of feces: dark clay color; no occult blood; abundance of muscle fibers. Leucocyte count, 6,400; polymorphonuclear neutrophils, 78 per cent.; lymphocytes, small mononuclear, 12 per cent.;

large mononuclear, 8 per cent.; eosinophiles, 2 per cent.

Several examinations of the gastric contents, one of which is reported below, were made, but outside of some motor absorptive insufficiency, they revealed nothing unusual.

Ewald test meal:

Amount, 142 cc.

Grayish yellowish color.

Odor, sour.

Occult blood.

Gastric mucus, abundant.

Reaction to litmus, acid.

Free HCl (indicator), 47.

Combined HCl (indicator), 23.

Total acidity (indicator), 70.

A bismuth test meal was given and an x-ray picture taken ten hours later. This radiogram showed local stagnation in the ileo-cecal region, demonstrating particularly well, the dilated cecum, and also the retardation of the passage of the bismuth into the transverse and descending colon.

Hygienic, dietetic and medicinal measures having proved unavailing, it was decided to perform a laparotomy.

Operation: April 25, 1913. Nitrous oxide gas anesthesia. Incision eight centimeters in length, half above and half below omphalo-spinous line, one centimeter to mesial side of the right linea-semilunaris. Forcible retraction of the edges of the wound. Exposure of the appendix, cecum and ascending colon. The appendix, though macroscopically unchanged, was removed.

There was a transparent vascularized veil-like structure about eight centimeters wide extending across and compressing the ascending colon. This membrane did not extend as far down as the cecum nor did it reach as far up as the hepatic flexure. It was distinct from the peritoneum of the underlying colon and as previously stated did not at all involve the cecum. The colon and cecum below the point of obstruction showed great distension. This film-like membrane could be moved over the underlying colon; it was continuous with the peritoneum on the outer parietal wall and lost itself on the parietal peritoneum to inner side of colon. The vessels of this membrane were continuous with those of the parietal peritoneum. No ileal kink was present. The fecal stasis was apparently due to the constriction exerted upon the underlying colon by this diaphanous membrane. This adventitious membrane was divided along its entire vertical axis, resected and the stumps transfixed with catgut ligatures. Closure of abdominal wall. Duration of operation, seventeen minutes.

Cotte<sup>3</sup> in a case showing the same pathologic findings, effected an exclusion of the ascending colon by implanting the ileum in the transverse colon.

3. Cotte, G. X.: *Apropos de la pericolic membraneuse*, Lyon Chir., 1912, VII, 63.



On April 29, 1913, following the oral ingestion of two ounces of magnesium sulphate, the patient had first post-operative bowel movements. Since that time he has had daily bowel movements, usually unprovoked by cathartics or unsolicited by enemas. He was advised as to a correct regimen so as to limit intestinal fermentation, irritation and putrefaction. It is agreed that in these cases regular habits, anti-fermentative diet, occasional catharsis, and above all abdominal gymnastics and massage are important after-considerations.

Patient was seen five months after operation; it was then ascertained that he was having daily bowel movements and apparently was cured of the habitual constipation and the attending disturbances from which he had suffered previous to the operation.

I have reported this case to emphasize: 1. The fact that acute or chronic pain in the right iliac quadrant is not pathognomonic of appendical inflammation, acute or chronic, but is symptomatic of many other pathologic states of the appendix vermiformis and neighboring organs. 2. That in cases thought to be appendicitis but not presenting the classical clinical picture of that disease, it is advisable that the operative incision employed be such as to allow not only the removal of the appendix but also the exclusion or removal of an ileal kink or of a pericolic membrane or of both. 3. That in the above reported case and in analogous cases, the digestive disturbances and habitual constipation complained of are apparently due, wholly or in part, to this film-like membrane which by compressing a segment of the colon, materially restricts the expansibility of the intestinal wall, hampers peristalsis and causes stasis in the cecal region. 4. That in obscure disturbances of the gastro-intestinal tract, it is well, previous to operation, to utilize the diagnostic advantages offered by Roentgenography.<sup>4</sup>

TECHNIC AND RESULTS OF INJECTIONS OF ALCOHOL FOR PAIN IN TUBERCULAR LARYNGITIS

DON A. VANDERHOOF, M.D.

COLORADO SPRINGS, COLO.

During the last year or two we have seen reports of blocking the internal branch of the superior laryngeal nerve by alcohol for those extremely painful conditions of the larynx due to tubercular ulcerations.

For some time Rudolf Hoffman of Munich has been doing some work along this line, and his results in producing local anesthesia in the larynx have been very good.

Dr. H. Horn of San Francisco reports a number of cases with no ill results.

A great deal of work on the injection of alcohol for neuralgias has been done by Dr. H. T. Patrick of Chicago, and many fine results reported by him.

Much of the work that has been done in regard to the relieving of these painful conditions has been done on tubercular laryngeal cases which were shortly doomed to die and which had been suffering for some time. But why wait? Why not as soon as we see that these patients are not eating as well as they should on account of their sore throat, why not block this nerve at once, instead of waiting till our treatment with orthoform, anesthesin, lactic acid, etc., produce no longer the desired results?

Of course, to get the desired results from the alcohol injections, the ulcerated condition must be in that part of the throat in which the parts are innervated by the internal branch of the superior laryngeal nerve.

The superior laryngeal nerve is the sensory nerve of the larynx, it arises from the ganglion of the trunk of the pneumogastric nerve and divides into two branches, the external and internal.

The internal branch of the superior laryngeal nerve is the one in which we are interested; it enters the larynx through the thyroid membrane and lies in close relation to the superior laryngeal artery. After passing through the thyroid membrane, the internal branch of the superior laryngeal nerve breaks up into smaller branches supplying the interior of the larynx, mucous membrane of both surfaces of the epiglottis, the back of the cricoid cartilages and the arytenoid muscles, after which it communicates with the recurrent laryngeal nerve which is the motor nerve of the larynx.

Dr. H. T. Patrick of Chicago has done a great deal of work on the injection of alcohol for tri-facial neuralgia.

The solution he uses is as follows:

Cocaine muriat, grains.....	i to ii
Alcohol .....	3 iii, SS
Aqua dist., qs. ad.....	5 SS

4. Satterbee and Le Wald: Some Apparently Obscure Conditions of the Gastro-intestinal Tract and the Practical Application of the Roentgen-ray in Their Diagnosis, Jour. A. M. A., 1911, LVII, 1255.

In injecting the internal branch of the superior laryngeal nerve I have never used any cocaine in my solution. The only pain that has been complained of is directly following the injection of the alcohol, so by the time the cocaine, if used, would take effect the pain would to a great extent have disappeared from alcohol effects alone.

Local anesthesia of the skin, before the injection, could be done, and I can conceive of no contra-indication to this, but I have never done it and do not consider it at all necessary. In a very nervous or sensitive patient this might be advisable at times, especially if the skin were very tough. If I found it necessary to anesthetize the skin preliminary to injecting the alcohol I should use ethyl chloride, for in attempting to anesthetize the skin by the injection of some local anesthetic as much pain would be caused as if the solution itself were injected.

I use for the injections a Record 2 cc. syringe, with a needle filed across and so blunted to avoid the danger of injuring the superior laryngeal artery which lies in close proximity to the nerve in which we are so interested at the present.

I have used an alcoholic solution varying from 50 to 85 per cent. That of the lesser strength I find just as satisfactory and in some ways even better than the stronger solution. In the first place I have found that the stronger solution causes more pain and, of course, there would be more hardening of the tissues with this solution than the weaker one. The results of the injections with the 50 per cent. solutions were just as good in relieving the pain and would seldom call forth any complaint of pain or great discomfort.

We have used the solution warmed as advised by Dr. Horn of San Francisco and really think this is the best method, but we have also used it cold and have noticed no more complaint one way than the other.

*Technic.*—This operation can be done either in the office or at the bedside of the patient, but in either case antisepsis should be practiced as in any operation.

The syringe and needle should be wrapped in sterile gauze and boiled, the alcohol (of which we use a 50 per cent. solution), is placed in a sterile medicine graduate. Exactly 3 c.c. of this solution is prepared for each nerve, although we have never found it necessary to use over 2 c.c. for the injection of any one side. If it should be

advisable to inject over 2 c.c. at any one time the syringe can be easily removed from the needle and more of the solution drawn up into the barrel of the syringe, then the syringe can be reattached to the needle and as much more of the solution can be injected as is desired.

The patient should be in a recumbent position with the head slightly thrown back, thus putting the muscles of the neck on a stretch. He should be told that the necessary work will cause him very little pain and the discomfort will only last for a very short time. In this way you can in most cases gain the confidence of your patient, which will help greatly in the work you wish to do.

The nerve which you wish to locate is situated just above the upper edge of the thyroid cartilage and about one-third the distance from its outer edge. As to exact measurements, I have usually found the nerve just 3 c.m. from the incisura thyroideæ.

If you will press at this place with your finger nail, and you are directly over the nerve, there will be a sensation of pain. This I have found to be true in most cases, but it is not to be absolutely relied upon. The skin should be sterilized with iodine, and as soon as you have to the best of your ability located the region of the nerve, the skin is picked up between the thumb and forefinger and the needle inserted with a slow pushing and twisting movement. On account of the dullness of the needle this is the most painful part of the whole operation as a usual thing. After the needle has passed through the skin I then insert it according to Horn's method: that is, slowly push the needle  $1\frac{1}{2}$  c. m. perpendicularly to the skin and move the point slowly around in all directions till the patient complains of a sharp pain in the ear. Sometimes instead of complaining of a pain in the ear he locates it as being in the jaw, and one patient said there was at the same time as the pain was felt in the ear also a sharp pain in the arm on that side. In some cases there will be no sensation of pain in any special location, so it will be necessary to inject your solution, hoping that you are in proximity to the nerve.

The solution should be injected slowly, about five minutes being used in injecting the whole amount, and while injecting it the point of the needle should be moved about a little in all di-



reactions. On withdrawal of the needle it will be found that there is usually hardly a drop of blood at the location of the puncture, due to the fact of using a dull-pointed needle. A little flexible collodion placed over the puncture completes the operation.

On account of the emaciation in most tubercular cases, especially those in the late stages of the disease, the injection is fairly easy to make. In all these cases the landmarks are easily to be made out and the distance which it is necessary to push the needle in is not as great as it would be, of course, in the average normal individual.

I have had very little trouble indeed in making these injections the first time tried, but if after the injection you get no results, do not hesitate to repeat the operation the next day. It can do no harm, but, of course, insert the needle at a little different place. If your ulceration is in a location which is not innervated by the internal branch of the superior laryngeal nerve, you can not expect any results, or if the ulceration is so extensive that it not only covers the parts supplied by this nerve, but also extends into other parts, you will then only get fair results.

Within five minutes following the injection, if you have succeeded in blocking the nerve, you will notice some benefit.

Miss R., aged 25 years, first came under our observation March 12, 1913. She had been in the city for some time, but had been under the care of no physician. Her illness dates back to about two years ago following a bad cold.

At the time we first saw her both lungs were badly involved and she was running an afternoon temperature of 102 to 103. She was quite emaciated and weak and said that for the last week or ten days it had been almost impossible for her to eat at all.

After a thorough cleansing of the throat and anesthetizing the parts, a 5 per cent. solution of formalin in glycerine was applied to the diseased area. The ulceration in this case was quite extensive, the pharynx as well as the larynx being involved.

Local treatments were tried for some time and at first she seemed to derive a great deal of good. She ate better and seemed to gain in every way. But by May 4 she was suffering a great deal again, so much so that it was impossible for her to take even liquids.

May 4 I made the first injection of alcohol 2 c. c. of a 60 per cent solution being used. Iodine was painted over the parts where the work was to be done. Just at the upper border of the thyroid car-

tilage and 3 c. m. from the incisura thyroideæ the needle was inserted with a slow twisting movement. It was pushed perpendicularly  $1\frac{1}{2}$  c. m. and the point of the needle was slowly rotated in all directions. In a moment she complained of a sharp pain radiating up to the jaw, but said she felt no sensation in her ear at all. At this point 2 c. c. of a 50 per cent. solution of alcohol was slowly injected. She made no complaint at the procedure, so the needle was quickly withdrawn and collodion put on the wound.

In less than five minutes she said that her throat felt very comfortable on the left side. About twenty minutes later she ate a very fair meal, but on account of the soreness of the right side she made considerable complaint. Four days from the time the nerve was blocked on the left side she requested that the same thing be done to the right side. This was done at once and the same technic followed, with the exception that on this side an 80 per cent. solution of alcohol was used. During the injection and for some few minutes afterward she complained of considerable pain. The relief on this side was just as marked as that on the left side, and she was very comfortable for about three weeks. About this time an ulceration appeared in front of the anterior pillar on the left side; also in the region of the uvula. This caused considerable suffering and inconvenience in eating, but she got along fairly well, as the larynx did not trouble her again up to the time she left us, which was June 2, 1913.

The ulceration in this case was very extensive from the beginning to the end. The results of the injection were all that could be expected until parts beyond those innervated by the superior laryngeal nerve also became ulcerated.

It is very interesting to see the change in the temperature curve in some of these cases. In her case before the injection the temperature varied from subnormal to 102 or over, while after the injections it never ran as high, and only once went above 101.

#### SOME OF THE COMPLICATIONS IN OBSTETRICAL PRACTICE.\*

ANDY HALL, M. D., MT. VERNON, ILL.

In a fifteen minutes' paper it will not be possible to discuss all of the complications that may arise in obstetrical cases—hence I will only speak of two, puerperal infections the most fatal, and lacerations the most frequent.

*Puerperal Infections.*—It has been estimated that no less than 8,000 mothers die annually in the United States from puerperal infections. As a majority of women so infected recover it is

\*Read before the Southern Illinois Medical Association, Duquoin, November 7, 1913.

quite evident that this is a very prevalent disease, notwithstanding our knowledge of its cause and methods of prevention. It is further stated on good authority that out of every 400 confinements many suffer from infection and at least one of the women so infected loses her life. Many of those escaping death suffer sequelae, which often necessitates surgical interference in after years.

Can the frequency of this disease and the frightful mortality which it produces be lessened? Yes, it can be practically wiped out, provided the physicians and midwives who attend obstetrical cases will only apply the rules and technic taught in all up-to-date modern medical schools. Sterile hands, or what is better sterile gloves, sterile instruments if any are required, a minimum number of vaginal examinations, and last, but equally important are a sterile perineum and vulva. Any of these missing links in the technic may spell trouble.

It is my observation that practically all physicians doing obstetrical work do sterilize their hands and instruments, but that very few of them make any effort to sterilize the perinaeum or vulva before examining their patients or delivering them. If we would avoid the possibility of dangerous infections, the aseptic technic in obstetrical cases should be as perfect as that carried out in major surgical operations. No one competent to do surgery would expect to get the best results without first thoroughly preparing the field of operation.

In conversation with a physician not long since I was trying to impress on him the importance of disinfecting the perineum and vulva in confinement cases. He said it would not be possible in his locality, as his patients would not stand for any exposure and that many of them were delivered under cover. Other physicians have told me the same story concerning obstetrical practice in their localities. But with a little diplomacy and intelligent explanation as to the reasons why this should be done I think this objection can be overcome in practically all cases—in fact I know it can.

In my obstetrical bag as a necessary part of my equipment, I carry a duplex safety razor. And in doing an obstetrical practice of approximately fifty cases annually, in country and city, among the well to do and most refined, and the

poor and most illiterate, I have never had one object to having the perineum thoroughly shaved and the vulva scrubbed with soap and sterile water; and then cleansed with an antiseptic solution. Furthermore this has been my practice in all cases. The shaving and cleansing includes the inner portion of the thighs.

Not long since a brother physician attended a case of confinement near a home where I had attended a case only a few weeks previously. He did not shave and scrub up his patient. I was told that his patient and her husband were both very much displeased as they thought he did not take the precaution that the case demanded.

Another thing that I carry in my obstetrical bag and use after emptying the bowel and preparing the perineum is an obstetrical sterile sheet. It does not cost much, protects bedding, and is much safer than the pads you will find in the ordinary home. Of course, if you have your patient in a hospital you can secure sheets about which there is no question.

It is possible for auto-infection to occur, and some of us have no doubt tried to ease our conscience and console ourselves by saying that this or that case of puerperal fever was due to an autoinfection. Yet the fact remains and the figures prove beyond any question of doubt that where the technic outlined has been carried out, and the chances of external infection have been made impossible, puerperal fever and resulting deaths have practically been unknown.

De Lee reports 2,193 cases delivered in the Chicago Lying-in Hospital without a fatality from infection acquired in the hospital. One woman died from peritonitis caused by the rupture of a gonorrheal pyosalpinx during a normal labor, and another from the rupture of a recto-uterine abscess during an operative delivery. Many other maternity hospitals report equally as good results. One hospital reports 8,373 deliveries without a death from infection ascribed to hospital care.

But, says one, these cases were attended in maternities and the same results cannot be obtained in private practice. What are the facts? In many of the large cities there are obstetric dispensaries where members of the staff and senior medical students attend the poor in their own homes. Worse sanitary surroundings than



exists in these homes could not be imagined. Yet, with the antiseptic technic carried out in these homes the result is better than that obtained in private practice. In the out clinic of Queen Charlotte's Lying-in Hospital, London, 4,165 women were delivered without a single death from infection. De Lee reports 7,000 cases delivered in the dispensary service of the Chicago Lying-in Hospital with but a single death from infection. He also reports a series of 3,990 cases handled exclusively by the dispensary staff, without a single death from any cause.

If these results can be accomplished in the slums of London and Chicago, why are they not obtained in the private homes here? Because many of us doing obstetrical practice are in too big a hurry, or we are too modest, or too lazy, or too indifferent to carry out the technic which we have been taught and know is necessary for the safety of our patients.

*Lacerations* are the most frequent of all complications in obstetrical practice. Under the best management, lacerations will occur. De Lee in his recent work says that 60 per cent of primiparae have tears of the first degree. Twenty-five per cent. of primiparae and 10 per cent. of multiparae have lacerations extending well into the perineal body, and 10 per cent have lacerations exposing the sphincter ani. Lacerations through the sphincter ani into the rectum occasionally occur in instrumental deliveries and in occipito-posterior and breach presentations. While we can not prevent all lacerations we can by proper management prevent some, limit many, and repair all. While it is no reproach to the obstetrician to have a laceration in his patient, he should be censured if he fails to detect a laceration and repair it at once. It is stated by good authority that at least one-half of the gynecologic cases that come to the surgeons are due to lacerations of the pelvic floor which have never been repaired.

Failure to detect and repair a laceration of the pelvic floor increases the chances of infection, causes faulty union or none at all, allows displacements of the bladder, uterus, ovaries and tubes, and later casts discredit on the attending physician.

Laceration of the cervix is best prevented by preserving the bags of water as long as possible, or until there can be no question about the cervix

being fully dilated. Discourage all bearing down efforts of the patient during the first stage of labor. If I see a patient early in the first stage she is frequently given one-quarter grain of morphin hypodermically. If seen toward the end of the first stage, she is frequently allowed to inhale chloroform until the pain ceases.

During the second stage of labor when the head has distended the perineum fully, and is almost ready to be born, I give the patient chloroform to the surgical stage. Then if it appears that the head can be delivered without a tear I do so, but if a tear is inevitable, instead of allowing it to occur and take any direction and to some unknown depth, I take a sharp pair of blunt pointed scissors and make a cut down the side—do an episiotomy. If this does not give sufficient room for the head to pass repeat the operation on the opposite side. After the head has been born, wait for the pains to deliver the shoulders—hasty traction on the shoulders often causes a laceration. When the labor is completed we have one or two smooth incisions which can easily be approximated and sutured. I have done this operation many times, have never regretted it, and have never been censured for it so far as I know, and only once has an interested party raised any objection. In this case, it was a smart husband who thought his judgment was better than mine. As he was the man most interested in the outcome, his will prevailed. But when the labor had ended and we found a ragged tear exposing the anal muscles he had ample time to repent and apologize for his hasty advice.

Many lacerations are caused by the injudicious and unskilful use of forceps. When forceps are applied, don't get excited and make a hasty delivery; but keep cool, and pull the head down slowly, as the pains come on. When it has been brought down until it can be held with the fingers applied against the perineum, remove the forceps and if necessary do an episiotomy and deliver.

Since I began to use pituitrin I have but few cases requiring forceps delivery. In my opinion this preparation is one of the most useful remedial agents that has ever been given to the medical profession. But one word of warning: be sure that you have a normal presentation before you administer a dose of pituitrin.

A friend of mine not long since was called to the country to attend a confinement case. He found a bag of waters presenting, the os well dilated and what he supposed to be a head presenting. Thinking he would terminate the case, and be on his road home in a few minutes, he administered a dose of pituitrin. The next pain ruptured the bag of waters and to his surprise, consternation and discomfort, he found a shoulder and arm forced down into the pelvic outlet. The result was that he called another physician and after they had completely anesthetized the patient they almost failed to turn the child. He did not tell me whether the child was still-born or not, and I did not have the heart to ask him, as I deemed it unnecessary.

When a case of labor has terminated, don't consider your services at an end until you have carefully examined your patient for a laceration, and if any are found repair them at once, unless there are contra-indications, such as a severe loss of blood, inadequate light or lack of assistance. In that event return and do the necessary repair within the next twelve hours.

Lacerations properly repaired at once will almost invariably unite with good results by the time the patient should be out of bed in a normal labor.

If you are not getting sufficient fees to justify the loss of time required to attend these cases properly, raise your fees and explain to your patrons that they can better afford to pay you ten, twenty, or thirty dollars extra for special attention, than to have an invalid wife for months and perhaps years, then pay some gynecologist a couple of hundred dollars for an operation.

If the obstetricians will do their full duty today, they will rob the gynecologists of half their patients tomorrow, thereby earning the fees that would otherwise go to pay the gynecologists for correcting their blunders.

#### OBSTETRICS IN GENERAL PRACTICE\*

FRED DRURY HOLLENBECK, M.D.

CHICAGO, ILL.

Obstetrics as an adjunct to the general practice of medicine might be a better title for this paper; by far the major portion of obstetric practice is not in the hands of the obstetric specialist but falls to the lot of the general practitioner,

this is necessarily so and will undoubtedly continue to be the fact. For though this is a so-called age of specialization, it is only the limited few, the well-to-do and the very poor in our large centers that are now able to command the services of the obstetric specialist. This being true, the question arises, what can be done to improve the quality of the service that is being rendered to women who are engaged in the laudable pursuit of reproduction? It can not be taken out of the hands of the general practitioner, and that would not be a desirable solution, but we may insist on a more serious view being taken of obstetrics as a science and require a better preparation on the part of those engaged in this work. De Lee states that over 20,000 women die each year in the United States from the direct or indirect effects of labor, and every physician who has practiced the art of obstetrics to any extent must agree with his contention that the minority of labor cases can be considered normal. Also our own experience teaches us that practically all ailing, bearing women date their troubles from their first or some subsequent labor.

Unfortunately the laity in general have lightly considered the performance of this function a perfectly normal process, and more unfortunately the profession have acquiesced or encouraged this attitude. The result is that the feeling has endured that anyone can do obstetrics, and almost everybody does. At this point I wish to present a few arbitrary statements for your consideration:

1. Obstetrics is the most important branch of the practice of medicine. A little consideration will convince you of the truth of this assertion.

2. The science and practice of obstetrics has now reached a point of exactness, not exceeded and possibly not equalled by any other branch of our art.

3. There is no branch in which the science has been, in the past, so generally neglected or the practice fallen to so low a percentage of efficiency.

4. There is no branch of the practice of medicine in which patience, knowledge and skill give such satisfactory results.

It is almost an axiom that any physician, practicing obstetrics to any degree, can and should so inform himself that on review of any given case he can know positively whether he has or has not done good obstetrics. I am sure

\*Read before the Chicago Medical Society, October 15, 1913.



also that this statement will not be seriously questioned: that the basis of most successful general practices is laid in good obstetrics. Why then is not better work generally done? I have not the time in a limited paper to go into this phase as deeply as I would wish, but hope it will be brought out in the discussion. I will only mention two, and the chief one is the light regard in which obstetrics is held by the laity and very generally by the profession.

The laity look to the profession for their inspiration along these lines, and if every physician who engages in this branch of practice would qualify himself and constitute himself a missionary in the cause of good obstetrics; if this could be brought about a revolution in our statistics of morbidity and mortality due to child-bearing would be the result.

The practice of the average obstetrician is very generally limited to the actual time of labor and includes from one to three post-partum visits. When we consider that the obstetric period covers the time from conception, through pregnancy, labor, the puerperium to involution, each with its possible attendant train of morbidity and mortality, we cannot fail to know how inadequate is such service. The physician's duties should begin with pregnancy and end only when his patient is on her feet in as near normal condition as it is possible to get her.

If we are to reduce the morbidity and mortality attending pregnancy and labor it is obvious that it is necessary to exercise a much closer supervision over our patients than the generality now receive and they should be taught to consult their physician when they observe the first sign of pregnancy.

I do not intend to go into detail in regard to practice but wish to briefly outline a few points which, if generally observed, would, in some degree, bring about the results wished for. For convenience I will divide these into the three principal divisions of the obstetric year: Pregnancy, labor and the puerperium and involution. To go into elementary obstetrics as seems to be necessary in a paper of this character, what the physician may do for his patient during pregnancy, may be briefly outlined as follows:

The patient should be thoroughly examined and an adequate history taken, pelvic measurements, in at least primiparae and multiparae who give

history of abnormal labor. Urinalysis should be made monthly or better every two weeks. The patient may be instructed in matters that pertain to her general health and special attention given to elimination, and the care of the breasts in preparation for nursing.

Signs and symptoms of abnormal conditions should be noted and may often be corrected. By attention to these and other details the comfort and well-being of our patients will be immensely increased, and the expectation of a successful labor be that much nearer realization, a condition advantageous to the physician as well as to the patient, and the physician himself will be placed in a much better position in that understanding fully the physical and mechanical condition of his patient he is much better equipped to do good work during labor and the subsequent period.

The average physician can do this, he can also be so prepared that he can go to the bedside ready for any emergency. Still pursuing elementary obstetrics, he can be clean, can insist on cleanliness on the part of his assistants and the patient. Brush, soap and water are very cheap and coupled with lysol and alcohol are very efficient, used as these articles should be in the conduct of labor. He can use rubber gloves, remembering that the rubber glove is not a substitute for personal cleanliness, but only an adjunct and not intended to cover dirty hands. He can also refrain from undue vaginal examinations. He can do episiotomy upon occasion, thereby preventing tears. When labor is ended he can make a thorough examination of the vagina and cervix, using a pair of retractors, and should immediately repair any tears of importance, having due regard to anatomical conditions; his object being, as nearly as possible, the restoration of the parts to normal conditions, his secondary object being to discourage infection.

The labor ended he can and should follow his patient through the puerperium and involution. There are many things that he can do during this period for the comfort and well-being of his patient. One of these is a practice I have adopted and used during the past ten years, namely cleaning the intestinal tract during the first twenty-four hours following labor, using salines, preferably magnesium sulphate in sufficient dosage, followed by an enema, if necessary.

My observation has induced me to believe that the early bowel toilet accomplishes these beneficent results: 1. The elimination of the temperature rise which ordinarily occurs the first few days after labor and which usually subsides promptly and permanently after thorough catharsis, a condition I use to meet with frequently and now rarely ever. 2. Also it seems to have a quieting influence on the establishment of lactation, the breasts being less turgid and consequently less painful and troublesome. 3. We all know that the early cleaning of the intestinal tract removes gas accumulation and helps in restoring muscular tone to the bowels.

He can and should give the patient close attention during the puerperium. He can insist on the knee-chest position, the patient lying on her stomach, or the Sims' position which favors the return of the uterus to normal position. Follow her to complete involution and see that she is left in as nearly normal condition upon discharge as it is possible to get her. The final examination should be insisted upon and conditions found fully noted.

There are many points in which the science of obstetrics has been immensely improved in the past few years, asepsis being easily chief, this alone having done more than any one factor toward lessening mortality in connection with labor. Another minor feature, but a distinct improvement, is the elimination of the slop diet that used to be insisted upon for the first 3 or 4 days after labor. There is no reason, in the ordinary case, why the patient should not have a fairly generous diet at this time, due regard being paid to the fact that she is in bed and not exercising. The introduction of bed calisthenics has also been a factor, in that its due employment helps to restore the general muscular tone, coupled with comparatively early standing erect and walking. The introduction of the pituitary extracts has unquestionably saved many a forceps operation.

No one ought to attempt a forceps or allied operation who cannot readily make a correct diagnosis of position and presentation by abdominal palpation alone or combined with vaginal examination. Nor ought he attempt repair of genital wounds without a good knowledge of the anatomy of the parts and the anatomical relations.

To quote De Lee again, an obstetrician is necessarily an internist, a surgeon and a pediatrician. A good obstetrician combines and uses the knowledge of these specialties as a necessary corollary of his obstetrical work.

To sum up, preventable mortality due to labor is, notwithstanding the advances made in the science, still far too frequent, but can be lessened and finally fixed to include only the unavoidable, when the profession and the laity, through the profession have been educated to think of obstetrics as on the high plane where it belongs and where the knowledge which is now accessible to us all is applied in actual practice.

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#### ABSTRACT OF DISCUSSION.

Dr. W. A. N. Dorland: So far as the practitioner is concerned, I have been teaching, as I believe the rest of the obstetricians in this country have been teaching, that it is much better for a medical student to come out as a first-class diagnostician than it is for him to come out as an operator. I believe that it is probably a mistake in our curricula to emphasize to the student the importance of major surgery as it has been emphasized. You know the average student feels that he is destined to perform appendectomies and gall-bladder operations, and all the other major operations that we know of; and we also know that when he does get out he does not get appendectomies, gall-bladder operations, nor any of the operations he felt he would get. On the contrary, work among children and obstetrical cases comprise the cases that young practitioners have to contend with. We so often hear the statement made that the mortality of a given obstetrical condition, in the hands of the average practitioner, is so much, but in the hands of the obstetrician it falls to such and such a figure. That is a reflection upon our medical instruction, and I think we who are obstetricians in the different medical colleges should insist on bringing to the attention of our faculties the first importance of obstetrics to the medical student. I find that nine-tenths of my students do not like obstetrics, and the work passes into the hands of inferior people, like the midwife, who is absolutely incapable. We should teach surgical diagnosis, surgical technic and emergency surgery, and let the man who wishes to become the abdominal or major surgeon take a post-graduate course with some good man before he goes out into such work. If he does that he becomes a surgeon, and not a makeshift.

How about the fact that Dr. Hollenbeck has emphasized—the value of pelvimetric examination? And yet how many men even know the names of the pelvic diameters, or what measurements are expected? They go through the course in college, and then forget it—that is, the average man does. It is important that these things should be known; that these men should realize that the individual is carrying in her body an-



other individual, that she is excreting for two individuals, and therefore she is having a strain thrown upon organs which are so often neglected. Of course these things are improving. Obstetrics is growing in value in the college course, but it is a very slow growth, and in this process of evolution in instruction which I said we are having now we all recognize that obstetrics is being left largely, and the evolution is more in the line of laboratory work and surgical technic. And so I would emphasize better education in obstetrics, and banish the idea that the student is to be a surgeon; and I would advocate the cultivation of obstetric diagnosis, so that when the student comes out of college he will be able to recognize these conditions, and then apply proper treatment.

Just a point about the patient. I believe that every man should consider her condition as a normal condition. It is just as proper for a woman to become pregnant as it is for her to have her other sexual functions. But she should also be taught that there are grave possibilities, and she should be warned as to the most important of them, so that she can be ready to note them—her frontal headaches, her dizziness, her dimness of vision, a greatly increased vaginal discharge. She should know some of these things. With this general inculcation of the knowledge of possibilities of danger in the pregnancy, she is better prepared to advise her physician of things she has noted. That is self-diagnosis, and auto-diagnosis is important. The very first abdominal section I ever did was diagnosed by the patient—an ectopic pregnancy. She diagnosed her condition herself, because two years before she had had the same condition on the opposite side. Primiparous women should have some points of instruction given them. Multiparae know them by experience. The labor and the puerperium are the more spectacular portion of obstetrics, and more time and attention are usually given to them. But if there is instruction given in these practical points bearing upon gestation, I think a step has been taken in the right direction.

Dr. Charles S. Bacon: Of course I agree with Dr. Hollenbeck and Dr. Dorland as to the importance of a thorough training in obstetrics and of a careful and scientific practice of obstetrics. I will confine my remarks on the puerperium to three or four of the most important subjects.

First, puerperal fever. Puerperal fever, as to its causation, is rather a subject for "labor." The infection usually begins during labor, at least in the great majority of cases. As Dr. Stowe is not present and the management of labor has not been considered, I would simply emphasize the importance of unnecessary operations, unnecessary examinations, especially improper and unnecessary manipulations in the management of the third stage of labor, as being of great importance in the causation of puerperal fever. Some cases do arise during the puerperium, and reasonable care should, of course, be given to the dressing of the puerpera, the proper washing and the proper vulvar dressings, and care to avoid any manipulations that

might lead to infection of the tract. But it is chiefly in the treatment of puerperal fever that we have to consider the subject in a discussion of the management of the puerperium. And here we might say that there has been a good deal of progress in recent years, although undoubtedly throughout the mass of the profession the changes in practice should be emphasized more perhaps than has been the case. Unnecessary interference in case of fever has resulted in a great deal of serious illness and mortality. A certain amount of fever is undoubtedly unavoidable. A morbidity of ten per cent is perhaps to be expected. There is such a thing as autogenous infection. Whenever these infections, which are generally light, occur, there should not be immediately a vigorous active treatment. On the contrary, conservative treatment is of the very greatest importance here. In fact, in all cases of fever we have to remember that we are not able by any active treatment to remove the invading germs or to destroy them by curettement or by douches, and these manipulations, we are all agreed, will do a great deal more harm than good. About all that we can do—and that is really a good deal—is to fortify the patient, to sustain the patient, to make her better able to combat the infection, and that, in the great majority of cases, she will do if she is properly treated. Rest and the management of the symptoms, the relief of pain by ice applications or sometimes by hot applications, elimination through the intestine, and general keeping up of all the eliminations, and particularly the supportive treatment by a proper diet, is the most, generally, that we can do. It is for the future to devise and bring forth a method of overcoming the infection, or, better, supporting the patient, so that she may overcome the infection, by means of serums or vaccines. I do not doubt that much progress will be made, probably within the near future, in that direction. We have not accomplished much as yet. But the main point is that unnecessary, foolish—foolish, because from our present knowledge we should know what we can do and what we cannot do—interference should be done away with as much as possible.

The next point I would consider is lactation. How important is lactation for the health and life of the infant we all know, and yet how very common it is for lactation to be abandoned. In almost every case a proper attention to details in the handling of the baby and the management of the mother and the care of the breasts will show that lactation can be, at least to a certain extent, carried on satisfactorily. The avoidance of infection of the breast is, of course, a matter of very great importance. The infection begins gradually, with little erosions about the nipples. Very minute care and attention to the details in the management of these early lesions is the proper way to prevent the infection of the breast.

Why a normal, healthy woman, who has been through a severe labor of twenty-four or thirty-six hours, should be kept for several days on a light diet or a slop diet, as the Doctor says, I cannot understand.

I see no reason why she should not have the same diet as in other conditions.

I believe that a woman who has gone through a severe labor and during the last weeks of pregnancy has endured a constant strain, can with advantage have a period of two weeks' rest, but this rest should not mean lying in bed all the time. It is undoubtedly of the greatest benefit to let the patient as soon as she can—after three or four days—begin movements, calisthenic exercises in bed. In that way she improves the circulation, so that by the end of the week she begins to get around gradually, walking around for two or three minutes at a time, and then lying down again several times in the day, but getting around more and more, so that at the end of two weeks she is in good condition. Thus she avoids being an invalid for some weeks, as she is likely to be if she remains in bed for two or three weeks.

Dr. Charles E. Paddock: The very concise statement of facts set forth in this paper is timely and I trust will be instructive. The principles and practice of obstetrics are either greatly misunderstood or are treated in an indifferent manner by the average physician doing general work.

There has been just as much progress in this branch of medicine as in any other, and the physician who continues to practice obstetrics as a side issue and does not recognize the above fact is doing the science of medicine a great injustice.

It is to be regretted that obstetrical cases are as a rule merely taken to help out the income, the physician looking forward anxiously to the time when he can refuse such cases. This means that the work is done in a half-hearted, careless way with little thought other than to get through as quietly as possible, and I believe I am right when I say that of all branches of medicine, that of obstetrics is the most neglected.

The woman must be educated to come to the physician early and be instructed how to live so that the process may be a normal one. It is due to such care that the patient escapes much of the pathology of pregnancy, labor and the puerperium.

Limit to the minimum the number of digital examinations during and after labor, using at the same time the most careful asepsis; and the puerperal infection, as mentioned by Dr. Bacon, will be an unknown quantity.

Much can be done for the patient in the puerperium to hasten involution, not only of the uterus but all the organs as well. Teach the patient some exercises or light calisthenics which she can use several times a day. Massage gently after five or six days the abdomen, this stimulating intestinal peristalsis and abdominal musculature.

Give the patient a more liberal diet than is usually the case.

Do all that is possible to establish lactation, and do not discontinue breast feeding without decided indication. I mention this because so frequently breast feeding is discontinued for trivial causes. Lactation

favors involution of the uterus, which is of more importance than generally thought. Besides, human milk saves the lives of many babies.

## WHO WILL DISCOVER THE CAUSES OF YOUTHFUL INSANITY?\*

(ABSTRACT.)

BAYARD HOLMES, M. D.

CHICAGO

*The Insanity of Adolescents*—By all odds the most dreadful misfortune which can possibly befall the youth is insanity. The insanity of youth presents a problem of astounding magnitude. Our latest official information shows that in 1910 there were no less than 184,454 insane persons in the custody of the 347 public asylums of the United States. Of this number, 60,303 were committed during the census year, and of the total number committed we have reason to believe not less than 25 per cent were cases of youthful insanity. This disease is termed dementia praecox, and it is looked upon by alienists and by the keepers of the insane as absolutely irrecoverable.

*Fate of the Youthful Insane*—In the state of Massachusetts, according to the reports of 1911, only one patient with dementia praecox recovered out of each 1,500 cases of dementia praecox. It is an incurable and hopeless condition. The death rate from dementia praecox is very high during the first year, and in some institutions on account of the large number remaining over amounts to as much as twenty per cent of the admissions. After the first year the expectancy of a patient with this disease is in the neighborhood of eleven years.

*The Causes of Youthful Insanity*—The causes of youthful insanity are absolutely unknown. In ancient times these young persons were believed to be possessed of the devil, and in the early days of New England several of them were hung and others were punished by ecclesiastical courts established for the purpose of abolishing witchcraft. At the present time most alienists look upon dementia praecox as a psychogenetic disease, and due to the action of a "twisted idea," which has some sexual basis in shame or fear.

December 31, 1912, Fauser, of Stuttgart, published in the *Deutsche medicinische Wochenschrift* his experiments with the Abderhalden

\*Read at a meeting of alienists and neurologists held under the auspices of the Chicago Medical Society, June 22-25, 1913.



reaction in cases of insanity, and in his subsequent paper in the same journal in the month of February he completed his statistics of the results in eighty-four patients. This research showed conclusively that dementia praecox is a disease in which the sexual glands undergo an early dystrophy. The blood of the dementia praecox cases uniformly catabolized the albuminous substance or fundament of the testicle, if the patient was a male, or of the ovary, if the patient was a female. Cases of manic-depressive insanity or any other form of insanity furnished blood which would do none of these things.

*Treatment of Youthful Insane*—If one asks today what can be done for the insane youth, we must shake our heads and say, not a thing is done in any public or private institution in the United States with any promise of improvement or cure. However, since the time of Savage, it has been observed that patients with dementia praecox with a febrile disease frequently become clear and occasionally recover. Bruce and Dide have both suggested that an artificial hyperleucocytosis might benefit the patient, and in the December, 1912, number of the *Tidske f. Retsmed. o. Psych.*, X, p. 227, Halvar Lundvall, of Lund, Sweden, published the report of the use of the nucleate of soda, and hetol hypodermically in saturated solutions, in sixteen cases of dementia praecox whose blood he had studied for a long time before, and he showed that six of these patients made a recovery sufficient to allow them to pursue their previous occupations, while five others were greatly benefited.

*The Known Causes of Other Insanities*—The only insanity which has been thoroughly studied and of which an adequate cause has been discovered is called general paresis. It is due entirely to the effects of syphilis. Although no remedy has yet been discovered which will cure a patient with this disease, the Wassermann reaction, the use of salvarsan and perhaps other methods of treatment yet to be discovered, make the outlook in this disease much better than heretofore.

*How Causes of Disease Are Discovered*—In the past most discoveries of the cause of disease have been made by isolated physicians or scientists working single-handed and unsupported, but of late great advantage has been shown by the commission which was established to study

cholera in 1882, and by the commissions for the study of the several tropical diseases and especially that for the study of yellow fever, all of which have brought forth rapid results, and made great financial undertakings possible.

*Why Research on Insanity Is Neglected*—The physicians who have attacked the problem of insanity have been obliged to work almost unaided and alone, and they have found the problem too complicated for this method of research. The states of New York, Michigan and Illinois have made feints at research into the causes of the insanities, but these researches have never been serious or protracted, and have so far resulted in little but discouragement. The London County Council has attacked the problem, but not with that horizon which promises favorable result.

*Reasons for Hopeful Research*—In spite of the fact that many persons consider insanity due simply to perversity of conduct, and look upon dementia praecox as the result of a twisted idea of a sexual nature, there still remain a great number of conscientious alienists and medical men who deem the symptomatology of dementia praecox adequate to call for research into the cause of the disease which costs the state sixty per cent. of all that is expended for charity. In the German-speaking countries since the paper referred to by Fauser on the Abderhalden reaction in diagnosing the insanities was published researches have begun in public and private asylums, and much work has already appeared which sustains Fauser's original thesis.

*Direction for Research to Follow*—It is well-known that hyperthyroidism is a disease which is excited by a superficial or external infectious or irritative process, sometimes by a tonsillitis, sometimes by an infection of the teeth or jaw, sometimes by appendicitis, and sometimes by other perfectly accessible conditions, and that it is unreasonable to expect a cure by the simple ablation of a portion of the thyroid. Now, in case of dementia praecox it is likely that the dystrophy or dysfunktion, as the Germans call it, of the genital gland is due to some distant and unsuspected toxic condition. It is possible that the primary disease may be a dysfunktion of some other gland which ordinarily balances up with the genital glands. Until some such source is discovered, it would seem wise to remove the tonsil, to rectify the teeth, to remove the appen-

dix and drain the gall-bladder, to keep the colon absolutely free from retardation, and in every way put the patient under the best possible conditions for spontaneous recovery.

*Youthful Insanity in Earlier Forms*—We have every reason to believe that dementia praecox is two or three years on its course when the patients are brought to court and committed to the asylum. Up to the present time none of these patients has been examined by the Abderhalden method before commitment. In school and at court troublesome or delinquent children should be examined by this method to determine whether or not they are showing the diagnostic symptoms of dementia praecox. The teacher and the probation officer must keep the possibility of this disease in mind in every troublesome case among adolescents.

#### CONCLUSION.

1. It is our contention that the responsibility of solving the problems of youthful insanity is in the hands of the state that expends such a large portion of its income at the present time in custody alone.

2. The very fact that youthful insanity is progressive and destructive in almost every instance is evidence of the strongest kind that it is due to a mechanistic, chemical or physical cause, and that it is subject to investigation and solution.

3. We are convinced by the teachings of medical history that there are no mysterious God-sent or devil-brewed diseases. There are no mystical, intangible, unapproachable sources of sickness and death. We have faith in the unity of natural phenomena and in the existence of adequate mechanistic causes for every malady, even though the major symptom of that malady may be a disordered mind.

4. To the modern scientific intelligence and in the everyday public opinion, there are no "hoodoos," no "evil eyes," no "curses," no "ban-shees," no "twisted ideas," or anything like them, adequate to drive annually fifteen full regiments of our brightest youths into a hopeless custody and start them on an irrevocable physical decline to end either in permanent confinement or in early death.

#### DISCUSSION.

Dr. Carl W. Sawyer, Marion, Ohio. I sometimes question whether or not dementia praecox is as incur-

able as we sometimes say. Most of the statistics come from the state institutions, where the cases are collected after they have reached the incurable stage.

If we investigate closely we can find that a number of them are caused by definite organic or functional changes.

At the Rockefeller Institute, in the semi-public institutes, and in a large number of private institutions where they are trying to work these cases out, the people know that the whole welfare of the public depends upon us. We have with us today the representatives who were sent directly by the governors of the states. I know I was sent here by the governor of Ohio. Governor Cox called several of the doctors together and said, "Whatever you want I will try to get for you, if it is reasonable," and I believe that he meant it. More legislation was put through in Ohio than ever before. I believe we have a chance now, and I would like to go back and tell Governor Cox that you gentlemen here have said that you want these things done; that something can be done for these people.

Dr. Holmes made one statement that I don't think is just right. I don't know how many here are at the heads of state institutions. I am not connected with one at all, so I am not speaking for myself in this. The men at the heads of these institutions are not at fault. I have visited a lot of them. I never saw so many earnest men as those at the heads of these institutions, but they are all held down by politics. I remember talking to a superintendent of an institution in New Jersey. I said, "Doctor, what do you do for them?" He said, "Nothing; we just feed them." He said, "Doctor, how can seven doctors take care of twenty-two hundred patients and make any effort to treat them?"

We must make a definite endeavor to fight this attitude.

Dr. H. C. R. Norriss, Enderlin, N. D.: Dr. Holmes' very able paper cannot be criticised on any point. He is entitled to a vote of thanks. We are very sorry that he did not have time to give it all, but we hope we will be able to see it. It will give us another viewpoint, which we need.

Dr. Harold N. Moyer, Chicago: I want to refer to some of the difficulties encountered. Six years ago I worked on the Civil Service Commission of the State of Illinois and, with my colleagues, had absolutely no interference whatever from the political powers in this state. The state service in Illinois is deplorably undermanned, because we cannot get the men. The civil service commission would say, we must have seven men, and we could only send up three. We have two and three hundred patients for a doctor in many of the places in our state hospitals. What are you going to do about it? I don't know. It is easy enough to say what you ought to do, but when you get up against the concrete facts and can't do it, what will happen?

Dr. W. F. Lorenz, Mendota, Wis.: Mr. Chairman:



You expressed yourself as not knowing why some of the men do not continue in the service, or why they are not attracted to the service. I have had some personal experience in the Illinois state service and can give you my personal impression. In the first place, you don't make the positions attractive from the monetary standpoint. You don't pay enough. You don't house them well enough. No opportunity is given a man to be married. He must sacrifice everything else when he enters the state service. Those things can be remedied, and I believe they affect very much the men who go into the service, and those who leave the service.

Dr. Moyer: I have taken those things up, too, and I am quite sure that that is the difficulty. I have urged on the state authorities that some of those things should be remedied, but the practical effect in Illinois has been this: You know as well as I do that we get the right fellows; they get trained, and in a year or two they go somewhere else.

Dr. Bayard Holmes, Chicago: One thing ought to be said, you don't have your service arranged. If a man wants to be a doctor, he wants to be a doctor. There is no chance to do any doctoring in the state service. The doctoring is not there. They don't want to cure them—they don't think they can. Put some medicine into it, some science, and have something done, something accomplished, and let these young fellows have an opportunity to study and to experiment, and not say to them, "Now, you are going to be an assistant superintendent, and become a bookkeeper."

Dr. Moyer: I am not satisfied that that is the real issue. We have in Illinois as noble a lot of men as you can find anywhere, and that statement is based on thirty years' experience. These men are doing earnest and noble work, but we can't get enough of them for the institutions.

Dr. Holmes: A man is put in as assistant superintendent when he is trying to be a doctor. You make all these men eat together, the doctors and their wives, all in one room. Some of these have dirty babies. There is no sense in that. I think one real fault is because the institutions are not scientific institutions, and are not conducted like hospitals, and when the men come out, they show that they have not been given opportunities to do actual medical work. They have been doing a routine work, and it is very, very poor, from a medical standpoint.

Dr. L. J. Pollock, Galesburg, Ill.: I believe I will take issue with both sides of the question. I have had some experience in state institutions in this state, and I will first take issue with Dr. Holmes. Although it is quite true that we do not as yet know the causes of many of the insanities, it must be remembered that it is only a few years since any department of medicine has attained a sufficient efficiency in pathology to recognize any changes. It is only since 1895 that in neurology we have been able to recognize any of the finer changes in pathology. The retardation that has

occurred in psychiatry is only that common to general medicine, due to the deficiency of general pathologic technic, which has improved, as shown. The work of the school of Alzheimer is a stupendous work—one which is absolutely without any comparison in any of the departments of medicine, and despite this work we have never been able to discover any of the pathognomonic pictures of such diseases as manic-depressive insanities and dementia praecox.

I will also take issue with the statement of Dr. Holmes that there is nothing done in these institutions. There is a great deal done. I agree that there is not as much done as should be done. These cases are not as thoroughly studied as they should be studied. I am willing to make the statement that every man in institutional work is head and shoulders above the physicians outside. These men are particularly trained. These men, so to speak, particularly in the state of Illinois, meet in medical meetings, which they hold every day, where the patients are discussed. Every patient is given a more thorough physical examination than any patient coming to an ordinary physician on the outside. These cases are discussed in a scientific manner. Laboratory work is being conducted in these institutions. It must be recognized that the laboratory work associated with psychiatry is more difficult than that associated with general medicine. These diseases cannot be cured or treated by the ordinary methods in use in the practice of medicine. There is no empirical remedy. There is no reason for directing a criticism against a twisted idea. That means something—it is not a term. A twisted idea, as Dr. Holmes terms it, is really a criticism of the explanation of certain symptoms. These symptoms appear not only in dementia praecox and hysteria, but also in alcoholic insanity, paranoia, and other diseases. That may have some cause—something which is acting on the brain, which causes a twisted idea. So in that respect I take issue with Dr. Holmes.

With regard to getting men for the service, I think if a special effort were made to assure these physicians that they would be allowed to pursue a scientific course of study, and of the practice of medicine and surgery, we would have no trouble in obtaining men for the service.

Dr. T. B. Throckmorton, Des Moines, Iowa: I think there is nothing more inspiring than for young men to meet with their elders. I have always been taught to respect my elders, but it seems to me that from what small experience I have had in institutional work one of the drawbacks has been that the superintendent at the head of the institution has had entirely too much work to handle. I believe that if we had placed at the head of our state institutions superintendents who had nothing to do but superintend the medical aspect of the institutions, they could give more attention to the different cases and study them over, and the men under him could have the benefit of his greater experience, and there would

be more enthusiasm than at the present time. But where the man has to take into consideration the fact that boards of control or those in charge over him are more anxious to know the number of bushels of apples raised to the acre, or potatoes grown, or number of hogs raised, I believe that no man can give the proper supervision both to the farm and medical institution.

Dr. Bayard Holmes, Chicago: I am glad to be seriously attacked by Dr. Pollock. Everything he says in regard to this matter is only an actual demonstration that I am right about it. He has left the state service, after doing the best possible work in the position he was in. He left it because he was not given a chance to do his work, not properly paid, and had a better place outside. All the good men will leave that way. I don't want them to. I want them to stay because it is the best place, because it brings the greatest amount of honor and consideration from the public, and so I am very glad to have him say just exactly what he said, and I believe that you understand it.

I have attacked these things. I have a nasty way of saying nice things, and I have attacked these psychiatric institutions. I think that they have not lived up to their name, just the same as I feel that the state hospitals do not live up to their names. I am intimately acquainted with several state hospitals, and I am absolutely sure that two of them did not for three months have a working microscope in the institution. They did not have facilities for making an ordinary urinalysis, which the doctor performs in the back room, where he keeps his automobile supplies.

I feel that the research that has been done in Illinois, for example, has been done in as good a way as they could afford. The first two years in the life of the psychopathic institute it only had an appropriation of four thousand; the next two years, \$12,500; the next two years, \$17,700. That is not enough, nowhere near enough, not even a beginning. Besides that, the institution has had all the work of organizing the staff of the whole state into a homogeneous mass, and it has been an enormous work. That work has had a lot of detail in connection with it. Unfortunately, a lot of unnecessary detail work has been taken on in carrying out this work, too many stenographers and too few people to explain to those stenographers. That is what I have objected to. They have enormous files and nothing coming out of them. I have noticed when at the state institutions that they have shown me these files of histories, but I have not been allowed to get at them. I do not doubt but what they would show them to me, because they publish them. But that is not the point. What I would like to see is something going on in a serious manner, with a large number of capable individual men carrying on research work over a long time.

I do not believe that the civil service is a good thing

in these institutions, anyway, because only once in a while can a good man get through those examinations, and get into the service and stay there.

Dr. L. J. Pollock, Galesburg, Ill.: Relative to the inference as to why I left the service, there seems to be a slight misunderstanding in Dr. Holmes' mind as to my reason. I was permitted to conduct my experimental work, and turned out a few small articles. It was because I wished to enlarge my activities, not because I did not like the service. I think the opportunity is there for any man who wishes to take it.

So far as the examinations are concerned, any physician could pass them.

### INFANTILE CEREBRAL PALSIES.\*

H. G. HARDT, M. D., CHICAGO.

Under this head may be classified symptoms of a varied pathologic lesion in the brain occurring in infancy. We may have a monoplegia, hydrocephalus, hemiplegia, paraplegia or diplegia. Some writers dwell more particularly upon one form than the separate forms which are clinically demonstrable.

Synonyms:—Little's disease—paraplegia; cerebral spastica (Heine); acute encephalitis; cerebral paralysis of children, spastic infantile hemiplegia (Benedikt); cerebral palsies of childhood; hereditary spastic paraplegia; hemiplegia in children; feeble-minded paralysis; spastic cerebral paralysis; congenital spastic paraplegia in children; infantile spastic diplegia.

*Etiology.*—Those who make a study of neurology have divided the etiologic factors into three groups; prenatal, natal and postnatal. The forms, according to Dieulafoy, of chronic encephalitis in children from birth to the period of the second dentition are often described under different names, according as they are designated by their anatomical lesion (hemorrhage, softening, porencephaly, lobar sclerosis), or by their major clinical syndrome (athetosis, hemiplegia, paraplegia, spasmodic diplegia, or Little's disease). They deserve to be studied as a whole, because, even though they present, as in the adult, varying symptoms according to the localization of the lesions, their course is marked by a common clinical basis. Paralysis with contractions, and intellectual troubles that may be slight or may end in low grade idiocy, are the elements of the syndrome common to almost all

\*Read at a meeting of alienists and neurologists held under the auspices of the Chicago Medical Society, June 23-25, 1913.



forms of chronic infantile encephalitis. The fact that the brain of the child is incompletely developed at the time when the lesion makes its appearance accounts for this special clinical process. Let me add that the after-effects of infantile sclerosis may appear in youth in the form of epilepsy. The writings of Bourneville and of Strumpell have helped to elucidate these forms of infantile encephalitis. Their natural

Of this number 33 are subject to epilepsy and 44 had athetosis.

In regard to number or relative position of birth, 39 were firstborn; 26 second; 16 third; 6 fourth; 8 fifth; 14 sixth and later; the others unknown. Among these the condition was first noticed in 98 during the first year, 5 during the second, 6 during the third, 3 during the fourth, none the fifth, and 6 unknown.



Cerebral Spastic Diplegia.

history has been accurately classified by Brissaud.

Cerebral infantile palsies have been described under three groups, or rather the etiologic factors have been placed in one of the three above mentioned divisions. The cases to be considered have occurred among the feeble-minded, 118 cases have been clinically examined. Of this number 61 are female and 57 male. This shows that the relative frequency is practically the same for either sex.

Of the total number there were 25 hemiplegic, 78 diplegic, 14 hydrocephalic and 1 paraplegic.

In regard to the gestation and labor the records show 99 to have been without instruments and apparently normal; 19 abnormal, or with instruments.

The onset in 50 had an initial convulsion; the remainder not stated.

The assigned causes were: Prolonged labor; fall on head; fright; presence of an imbecile brother; smelling camphor; operation for tumor; morphinism; syphilis; consanguinity; measles; meningitis; alcoholism; tuberculosis and heredity, as well as fall during gestation,

chloroform, otitis media, grief, malnutrition.

In 25 per cent of cases a positive history of tuberculosis and alcoholism could be obtained. In 16 per cent meningitis was the evident exciting cause. Among the cases there were three blind and one deaf. In most of the cases the peculiarity dated from birth.

*Pathology.*—The lesions found in the various clinical groups to be described, depends upon the severity of the clinical manifestation, whether it be a convolution, lobe, hemisphere or a greater area that is involved. The sclerosis and atrophy which form the scar of the insult have much the same characteristic in all the different forms mentioned. It has, therefore, been spoken of by many writers as a "sclerotic atrophy."

The primary or initial cause many times remains clouded in obscurity, because no known warning of the time when it may have been brought about, whether due to trauma or disease was observed. In many post mortems, blood clots, the result of a hemorrhage, as well as cysts of various sizes have been repeatedly found. These failed to absorb because of being walled in and remain as a residue. The most characteristic universal finding is the marked contraction of the area or areas involved due to the sclerosis and resulting atrophy.

In a resume of 343 cases by Allen Starr the conditions found were as follows:

*Porencephalus*, a localized atrophy or agenesis, leaving a cavity in the cerebral hemisphere, which may be deep enough to open into the ventricle, 132 cases.

*Sclerotic atrophy*, an atrophic condition of the brain with an increase of connective tissue and disappearance of the nervous elements; affecting both hemispheres, or one only, or a part of one only, or limited to small areas in various parts, 97 cases. This is the terminal result of encephalitis (q.v.) and often results from maldevelopment from unknown causes acting on the foetus.

*Maldevelopment* and apparent atrophic condition of the minute structures of the hemisphere, chiefly cortical, the cells resembling those of a newborn child, but with no apparent gross defects in the brain, 32 cases.

*Atrophy*, consequent upon the condition of softening produced by embolism of thrombosis,

and limited in extent to certain arterial districts of the brain, 23 cases.

*Meningo-encephalitis*, a condition shown by thickening and adhesion between the pia and the brain, with destruction of the cerebral cells and atrophy of the cortex, 21 cases.

*Cysts* lying on the brain and producing atrophy by pressure, or associated with atrophy due to the original lesion of which the cyst remains as a trace, 14 cases.

*Hemorrhage* on or in the brain, as shown by the remains of a clot, or by hæmatin staining of a cyst, of the pia, or of the sclerotic tissue, 18 cases.

*Hydrocephalus* with extreme dilatation of the ventricles, so that the brain tissue is reduced to a mere wall about the cavity, 5 cases.

*Little's Disease.*—English, German and American writers are prone to use the term Little's disease in a generic sense to embrace all cerebral palsies in childhood. French writers, of the Salpêtrière school especially, insist upon a clinical form of spastic diplegia to which they give the distinctive name of Little's disease, after the London surgeon who among the first called specific attention to this class of disorders. As these cases referred to present certain definite characters and a more hopeful future than the others, they merit separate mention.

The initial condition is a premature birth or the birth at term of a markedly undeveloped child. This means a defective pyramidal tract in the spinal cord and brain. Such children usually weigh less than four pounds. Spasticity results in the territory of the lower neuron from the lack of control due to the undeveloped condition of the upper neuron. These children are rigid from birth, but the mental qualities are not necessarily diminished, and if they survive, the tendency is to continuous improvement as the pyramidal tracts develop. This development is never complete, but continues up to the age of full growth. The motor condition is one of pure spasticity and there is no tendency to athetoid movements or epileptic attacks. The gait remains more or less spastic through life, which may be a long one marked by ordinary or even brilliant mental activity.

From *Little's "Deformities of the Human Frame."* Pages 115-16-17-18—1853.

The next is a severe case of spastic rigidity



of limbs, with impaired intellectual development, from asphyxia neonatorum, with the particulars of which I was furnished by the parent, a surgeon in Oxfordshire.

The male child of young and healthy parents, in consequence of protracted labor (it being the first child), was born asphyxiated, and continued so for above half an hour. The pressure, not instrumental, over the occiput, was to such an extent as to cause congestion and ultimately sloughing over the occipital protuberance. For several days the child was very

good. He appeared rather backward in the use of his legs, but this was attributed to his great weight.

At two years of age the attention of the parents was drawn to his inability to walk or creep on the floor, as also to his backwardness in the use of the tongue and right hand. He was now put under the influence of electro-magnetism three times a week, of sufficient strength to be disagreeable to an adult; and during the summer was dipped in cold water every morning. He was once during this year subjected to a course of calomel for a period of three weeks, which induced jaundice, and made him much thinner. His bowels



Cerebral Spastic Diplegia.

irritable, and unable to cry aloud; during the first two days he had several convulsions, and did not appear likely to survive. However, after the bowels had been well cleared by an enema, he rallied, and was pretty well, although small in size. The only thing remarkable at this time was an awkwardness in taking the breast, so that during the first fortnight he was obliged to be fed from a bottle. At the age of two months he began to increase in size, and up to end of first year was remarkable for robustness. When nursing him, it was noticed that he did not retain his seat, but slipped off the hand or knee of the nurse. The period of dentition passed over without any disagreeable symptoms. His temper was always

after this were continually costive, but he took very little medicine. He occasionally awoke in the night apparently frightened, and was a considerable time getting quiet again.

Soon after his third birthday he could say "papa," imitate the cow, and knew several letters of the alphabet; and in the early part of the year could raise himself on his knees to crawl, which was performed principally by the left leg. He could also distinguish several of the animals in a Noah's ark, and in an effort to do anything difficult, a spasmodic twitching of the flexors of right leg was observed, which was increased when he attempted to use it. He sat chiefly on left nates.

During the fourth year he was able, when the weight of the body was supported, to advance his legs regularly for progression. When on his knees he is apt to change position by throwing himself back, and sitting with the legs under him to play with his toys. During this year he was taken to Brighton and bathed in the sea daily for six weeks. On his return his father perceived a great change for the better; there was greater animation, and the child was able to articulate the name of the bathing-woman. The mental powers began slowly to improve. About this time he was put under a course of steel medicine, which improved his health, and enabled him to use his legs more for support.

At the commencement of his fifth year he was put under a course of sulphate of zinc, beginning with gr. j. and gradually increasing to gr. v. He had a boot with an iron attached outside to prevent a contraction of right foot, and a baby-jumper for exercise. He continued to improve up to his fifth birthday, when he was able to walk slowly round the table, depending very much for support upon his hands, more particularly upon the left. He also pushes a chair before him, and can ride a rocking-horse without assistance. He uses his right hand better, can set up some of his toys, and also can feed himself with it. On taking up a ball, he can now, when he attempts to throw it, relax his hold of it. He begins to connect his words, and says many of them distinctly; he can pronounce each letter of the alphabet, and knows the majority of them. He can also count up to 40, repeat the Lord's prayer, and a verse or two of hymns, with but little assistance. He sleeps well and eats heartily. His body is in good condition and well formed, and there is no malformation about the spine or limbs. During the last twelve months he has been rapidly improving.

July 29, 1851. The author's journal states he is now between five and six years of age, a favorable instance of this severe class of case. The right side is most affected. Although he walks in the manner of *T. equinus*, the feet can be flexed with the hand. The left hand appears little affected, in the right pronation preponderates over supination; the flexors are less troublesome than pronators. The father's report, December, 1852, is "that he has mentally much improved; writes with right hand on a slate tolerably well; but being obliged to use so much force (to overcome the spasm), he does not do so well on paper."

*Diplegic Form.*—Both sexes are alike affected and the peculiarity is noticed as a rule during the first year and can usually be traced from birth; alcoholism has been a big factor when associated with tuberculosis and defective heredity. Many have a microcephalic cranium with small cephalic index. In the cases noted 40 per cent. had a form of strabismus. In the

facial group of muscles frequently twitching is noticed more so on one side than the other. There is a weakened muscular tone of both extremities, especially the lower. The movements of the hand and fingers are clumsy, things reached for are often knocked over and in many cases a beautiful play of athetoid movements is shown in the limb reaching for an object as well as in those which should be at rest. Usually associated with athetosis of the fingers and toes there is a hyperextensibility; frequently one side is better developed than the other. More or less spasticity can be elicited in the upper extremities. At times marked choreiform movements are present.

In the lower extremities the spasticity as a rule is more marked, more often exaggerated on the one side and the feet frequently assume a form of talipes, most often talipes varus, and an adduction of the knees.

Articulation almost becomes a stammer due to spasticity. The special senses, hearing, smelling, tasting, feeling and seeing, remain in fairly good order.

There is very little change in the reaction to electric stimulation. The cutaneous sensibility shows little impairment unless the mental grade is so low as to influence it. No marked disturbance occurs in deep sensibility, such as tenderness over nerve trunks. There is more or less muscular incoordination.

Among the centrifugal apparatus there is noticed a frequent disturbance of the ocular muscles. Optic axis are often not parallel and myopia is a common finding, the pupils reacting to light and accommodation. One eye at times follows the light with full and steady movements. Frequently one naso-labial fold will show more tone than the other.

In testing the grip with a dynamometer one side often shows more weakness than the other corresponding with the finding in the extremity.

Speech shows at times the involvement of the tongue, lip and throat muscles.

The superficial reflexes, i. e., corneal, supra-orbital, epigastric and abdominal, are usually present and normal, and nearly always the plantar is present and normal.

The deep reflexes, i. e., biceps, triceps, supinator longus and patellar are exaggerated, sometimes more actively on one side than the other;



again at times the spasticity is so great and the parts held so rigidly that no reflex action could be elicited but later obtained under more favorable circumstances. Ankle clonus was very irregular.

Babinski sign showed no regularity; in some cases it is found in both feet; some in one foot and again in some typical cases is not found at all.

walk and locomotion by means of a wheel chair is necessary. Some of the cases so deformed lie on their back in bed, legs crossed and with hands and fingers performing bizarre movements; also with their head, in fact any part of the upper extremity. Flipping thread, saliva and lint spinning is a frequent employment and apparent enjoyment. Automatisms are common. When standing the feet tend to spread and a



Hydrocephalus.

All the cases from which this abstract was made were able to swallow well, some were fed, but the feeding was made necessary because of the low mental state.

A careful Simon-Binet examination was made of the mental intelligence in all cases and it varied from a low grade idiot, having an intelligence of less than one year, to a high grade moron, having a mental intelligence of eleven years.

The spasticity may be so marked in the lower extremities as to incapacitate the individual to

knock-knee formation is seen. The body balance is poor. The skin is usually soft and sweaty. A peripheral cyanosis is frequently noted.

In about 10 per cent. of the cases there was associated epilepsy.

Mary M. Father, lather. At the age of 31 he was killed by a street car. Mother was a dipsomaniac. A brother of the father committed suicide and another one was tuberculous. Mother's father died of tuberculosis. Mother's mother died of a cancer.

This child was admitted October 31, 1904. She was first in the order of birth, being weak and ill-

nourished; weighed three pounds at birth. She did not walk until three years of age.

Skull measurements:

	Cm.
Head circumference .....	49.5
Naso-occipital arc .....	27.9
Naso-bregmatic arc .....	10.1
Bregmato-lambdoid arc .....	15.9
Binaural arc .....	27.5
Antero-posterior dia. ....	17.2
Greatest transverse dia. ....	13.9
Binauricular dia. ....	13.5
Cephalic index .....	.80

The head is microcephalic. Forehead is slightly retreating. There is more freedom of the facial muscles on the right side than on the left. In expressing emotion or in talking the left side of the face moves more freely and earlier than does the right side.

Eyes. There is an alternating divergent strabismus present.

Ears. Left ear is larger than the right. Lobules are adherent.

Upper limbs. This child is right handed. The right arm is smaller in girth and somewhat weaker than the left.

Measurements:

	Inches.
Circumference of right arm .....	7.5
Circumference of left arm .....	8.
Circumference of right forearm .....	7.5
Circumference of left forearm .....	8.5

There is a marked athetosis of the fingers and fingers are hyperextensible and slightly clubbed.

Lower Limbs. While sitting the child holds her knees close together and the feet are extended with the heels raised and the toes touching the floor in the position of talipes equino varus. When she stands squarely on both feet, both feet show a marked pes planus. She stands with knees adducted. The right leg is slightly larger and better developed than is the left. The right calf measures 11.5 inches; the left calf 10.75 inches. This contrasts with the development of the upper extremities, where the left arm is larger and stronger than the right.

This child is under-developed and stands markedly stooped, leaning somewhat to the right side. She stands with her knees close together and feet planted squarely on the floor. There is a slight left lateral curvature of the spine.

Gait is very spastic, almost a shuffling run. When asked how she feels, replies, "All right."

Breathing becomes spasmodic on exertion or excitement. Her mouth is nearly always open. This may be due to paralysis of the facial muscles.

Heart. Negative.

Nervous System. Smell: Camphor is recognized, etc. Vision: Practically good. Hearing: Good by rough tests.

Cutaneous Sensibility. Touch and pain sensibility

are O. K. Localization of touch is good. Temperature and stereognostic sensibility are fair.

Deep Sensibility. There is no tenderness of nerve trunks. Muscular coordination is poor.

Eyes. Pupils are regular; they react sluggishly to light and accommodation. The optic axes are not parallel. One eye at a time follows the light with full, steady movements. One eye seems to be used about as easily as is the other.

The left naso-labial fold is slightly more marked than is the right.

Voice is loud and harsh. The speech defect is probably almost entirely due to the paralysis of the tongue, lips and throat.

The grip of the right hand is weaker than the left. The hands show a jerky tremor. There is athetosis present in both hands, feet and face.

All deep reflexes are exaggerated, more so on right side.

Superficial reflexes are present.

She passed 28 tests of 55 required. Intelligence 6 plus. Retardation 19. High grade imbecile.

Byron W. Father is a hotel clerk. Mother is a tubercular. One sister, more helpless than this child, died at 3 years of age.

Child was admitted April 23, 1902. He was born normally and at full term in 1895. He was second born. He is cross-eyed.

Child is emaciated, practically no muscular development. Bones are easily palpated and outlined. The child's head is elongated vertically. Eyes are open and staring. There is a tendency to protrusion of lower maxilla. Child lies in a position of general flexion with either one hand or the other in its mouth the majority of the time.

Eyes show a nystagmus and an internal strabismus of the left side. Corneal reflex present. Ears are large and protrude. Teeth are poor and decayed—irregular. Palate is high. Face is expressionless. Thyroid is atrophied.

Chest presents a frustum appearance. The lower ribs flare very markedly. General emphysema. The abdomen is distended. Pubic hair is absent.

There is a tendency to flexion of the forearms on the arms with adduction of the arms on the chest, held more or less rigid and are spastic with athetosis of the fingers, more so on the left side.

There is flexion of the legs on the thigh with abduction of the foot with marked flat-foot present. The parts are very rigid and spastic. Gait is spastic. There is peripheral cyanosis.

Vision is apparently present but nothing definite can be obtained in regard to what extent. Hearing is present but degree and acuteness is difficult to determine. Phonation and articulation is defective.

Cutaneous sensibility is present. Superficial reflexes—corneal, supraorbital, epigastric, abdominal and plantar—are present. Deep reflexes—biceps, triceps, supinator longus and patellar—are exaggerated on left side.



The movements of the facial muscles are impaired. There is a marked tremor of the eyelids. There are automatic bizarre movements of the head, arm, hands and fingers. The muscular tone of the lower extremities is poor.

He has been an inmate for 11 years. He spends practically all of his time sitting in a chair, performing automatic movements, scratches the skin of his hands and face until it bleeds at times, becomes excited and is noisy and restless.

The muscular growth has been poor. He is very untidy and has to be fed. When he does not spend his time in his chair he usually is in his bed and is quite destructive to his clothing and bedding.

Diagnosis: Infantile cerebral palsy. Spastic diplegia type.

Binet: He passed 4 tests of the 55 expected at his age. His intelligence is approximately at the level of one year plus, indicating a retardation of 16 years plus. Ranks as a middle grade idiot.

His speech is absent entirely—no understanding, no words, grunts and laughs.

*Hydrocephalus.*—This condition is observed macroscopically by the unusual size of the cranium which attracts attention. This is caused by extreme dilatation of the ventricles, the brain tissue thereby being reduced to a mere wall surrounding the cavity containing an accumulation of serum. This condition results from a previous injury or disease producing an accumulation of fluid in the lateral ventricles in excess of what can be cared for, producing an internal hydrocephalus. It has been frequently associated with rickets. The fluid appears to be secreted by the ependyma of the lateral ventricles and may vary in amount from a few ounces to five or six pints. It is identical with the cerebrospinal fluid. The distention of the brain causes a distention of the skull before bony union and formation is complete and this produces, as was before mentioned, macroscopic appearance of a hydrocephalic skull.

In the 14 cases which are part of the 118 cases of infantile cerebral palsy there were 9 males and 5 females. Two of the females had associated epilepsy and five of the males were similarly affected.

Freda K. was admitted May 13, 1902. She was second born; delivery normal. Peculiarity was first noticed at six months of age—large head. She had convulsions.

Weight 136 pounds. Stretch of arms 157 cm.  
Cm.  
Circumference of skull ..... 60.5  
Naso-occipital arc ..... 35.5

Naso-bregmatic arc .....	14.
Bregmatic-lambdoid arc .....	13.
Binauricular arc .....	36.5
Occipito-frontal diameter.....	19.5
Binauricular diameter .....	15.6
Greatest transverse diameter .....	18.1
Cephalic index .....	.92

Head is macrocephalic; dome shape; bulges more on the left side. Right side of face is larger. Alternating divergent strabismus. Tongue protrudes slightly to the left. Breast—large and pendulous.

In the upper extremities there is a tremor of both hands; also a stiffness and awkwardness of the fin-



Hydrocephalus with Paraplegia.

gers with hyperextensibility. Peripheral cyanosis is present.

She sits quietly all day in an invalid chair. Is unable to dress or undress; is untidy.

Lower extremity. Both patellae are drawn above the normal position. She sits in a stooped position for hours in an invalid chair, unable to walk, but can move about a little on her knees. She says "I feel all right."

The cutaneous sensibility is hypersensitive. Right side of face moves more freely than left.

The superficial reflexes, that is the corneal, supra-orbital, epigastric and abdominal, as well as the plantar, are present and normal. The deep reflexes, bi-

ceps, triceps and supinator longus and patellar are exaggerated. Marked spasticity of both legs is easily demonstrated.

She passed 16 of the 60 required tests, indicating an intelligence of 4 years and a retardation of 21 years and would grade, according to this intelligence scale, as a low grade imbecile.

Willie H. was admitted August 8, 1901. He is now 31 years old. He was first born of four children. His twin brother died about three days of age. The child is said to have been peculiar from birth; head large; legs drawn up; spine curved. He was able to feed himself, tie a shoestring; bright, cheerful and interested in play. The assigned cause was lues, causing a dropsy of the brain. He plays the zither.

The grandfather and mother and one brother had consumption. Father was alcoholic.

The child could not hold its head up until the second year.

	Cm.
Circumference of head .....	66.25
Naso-occipital arc .....	37.5
Naso-bregmatic arc .....	16
Bregmatic-lambdoid arc .....	15.5
Binauricular arc .....	38.1
Antero-posterior diameter .....	23.75
Binauricular diameter .....	16
Greatest transverse diameter .....	17.5
Occipito-mental diameter .....	28.75
Cephalic index .....	.737

Teeth are wide apart. There is exophthalmos and divergent strabismus. Ears are large, left more so than right.

Lower limbs are contracted; knees adducted, feet abducted; talipes valgus; marked contracture of ham string muscles.

This child sits in a wheel chair, frequently cross-legged; he is unable to walk. Genitalia are atrophied. There is a right scoliosis in the dorsal region and kyphosis. Very recently a grand-mal epileptic seizure was had.

There is a marked dyspnea due to the deformity of the chest. There is a general weakness in the muscular tone.

The cutaneous sensibility is good. There was no especial tenderness of the muscles or nerve trunks to pressure. With the dynamometer, according to Smedly's instrument, right shows 34 kilos, left 33.

There is a marked spasticity in the lowers and muscular weakness in the uppers; there is athetosis and clumsiness of the fingers. A general tremor, almost choreic, is present.

He is a good conversationalist, is neat, cheerful and is anxious to be quizzed.

According to the Binet-Simon test he graded as a high grade moron.

Regarding the other twelve cases will say that in each case the ocular apparatus showed involvement, usually an alternating divergent strabismus. A very common finding is a pes

planus, talipes valgus and talipes equinus. Over half of them were unable to walk and spend most of their time in wheel chairs suffering with marked paraplegic symptoms where the knees were adducted and the feet abducted.

The reflexes were more exaggerated on one side than the other, but the deep reflexes could almost always be found exaggerated while the cutaneous sensibility remained unimpaired.

In regard to the anthropometric data will say that the occipito-frontal circumference varied from 57 to 67 cm. and the cephalic index from .73 to .920.

The mental intelligence, according to the Binet-Simon scale ranged from a low grade imbecile to a high-grade moron.

The greatest predominant factor in the etiology was an alcoholic and tubercular history of the parents. Difficult or instrumental labor played a small part only.

As a rule the lower extremities were more involved than the upper, in fact one boy was able to play with considerable ease a zither.

The general body tone is relaxed. In the male the skin was loose and in the female there was a general flabbiness.

In three other cases there was a marked paraplegia. The patellæ were drawn above their normal position and a talipes of one form or another deformed the feet. In trying to stand there was usually a buck-knee present.

*Hemiplegia.*—The hemiplegic form of cerebral palsy affords an interesting group for study as an opportunity presents for relative comparisons and as a rule the evidence is so conspicuous as to be readily recognized even to the extent of causing marked deformity of the affected side, showing the characteristic features of hemiplegia as seen in adults. If developed in infancy it most commonly is ushered in by convulsions. The onset is followed by a period of unconsciousness of varying duration.

Frequently death occurs during this period. If they survive the onset a paralysis is noted which tends to some improvement, especially the lower limb, then a stationary state is arrived at and as the child develops a corresponding apathy or undevelopment of the affected side becomes more noticeable. The patient soon learns to do varied movements by the assistance of the sound side. The paralysis can be easily traced along



the whole side affected and as time goes on contractures of the various tendons cause deformities of the sides, especially noticeable in the hand and foot, forming a talipomanus of the hand and a talipes equino varus of the foot. The girth of the muscles is lessened, the length of the affected bones are shortened and a dwarfed or atrophic condition of the affected part results.

The nerve tone and blood supply to the affected side is impaired, a cyanosis and thin skin, rather pale and bluish is seen. The electrical reactions show no change on affected side.

The superficial reflexes are usually present and normal, while the deep reflexes are exaggerated, more pronouncedly so on the affected side, especially the patellar; the upper and lower limbs show clumsiness and spasticity.

Their mental attitude is a restless, irritable one much like that of an epileptic. The good side is called on to help the affected side. After the stationary stage has been arrived at very little is hoped for in the line of treatment.

Strumpel says "the whole course of the disease suggests very strongly an acute encephalitis."

Sachs and Osler, from the study of a large number of cases, find that the cause of the paralysis is almost always hemorrhage or embolic softening.

In the hemiplegic cases the arm usually recovers less than the leg or face and the athetoid condition is commonly confined to it.

Laura R. was admitted October 16, 1905. Age 15; born in U. S.; single; condition dates from early childhood; first noticed in second year; after a severe attack of otitis media a defect was noticed on the left side of the body. This child was third born and the second living child. Labor was normal; weight at birth 8 pounds. She had a convulsion at the time of the otitis media; also tuberculous glands of the neck at that time.

Father is living; aged 42. Mother died of heart disease; aged 33. At the fourth month of gestation the mother received a severe fright. One brother died the day after his birth; one sister still born; another died an hour after birth; one sister living—fifth born.

At three years of age she had chorea; at four epileptiform convulsions. In the seven years' stay at the institution one epileptic convulsion has been recorded of a grand-mal type.

Height 153.6 cm. Weight 117.5 lbs.

Skull measurements:

	Cm.
Skull circumference .....	52.7
Naso-occipital arc .....	29.8

Naso-bregmatic arc .....	12
Bregmatic-lambdoid arc .....	12.7
Binauricular arc .....	27.3
Antero-posterior diameter .....	17.1
Greatest transverse diameter .....	16.5
Binauricular diameter .....	16.1
Cephalic index .....	.96

Head is brachycephalic type, left side smaller, but the muscles of the right side move more freely. The lips are normal. Teeth, second dentition. Soft palate is normal; hard palate is broad.

The tongue is small, pointed, and has a few small transverse fissures. The left side of the tongue is



Cerebral Spastic Diplegia.

smaller than the right and has a somewhat shrunken appearance, suggesting atrophy. Thyroid is small.

Thorax. The left side of chest is much less developed than the right.

Upper limbs. The left arm is deformed and weaker than the right. The left side is spastic, the hand carried flexed on the wrist-talipomanus. The forearm extended on the arm. There is athetosis of the left hand and the fingers are hyperextensible.

Measurements of the arms:

	Inches.
Circumference of right arm .....	9.75
Circumference of right forearm .....	9.5
Circumference of left arm .....	9.
Circumference of left forearm .....	8.25

The right hand is well formed, the fingers short and stubby.

Lower limbs. The left foot shows a talipes valgus deformity. Both legs show weakness.

Measurements:

	Inches.
Circumference of right thigh .....	18.25
Circumference of right calf .....	13.
Circumference of left thigh .....	17.5
Circumference of left calf .....	12.25

There is a general leaning to the left side. .There is a right scoliosis and a thoracic kyposi present.

The gait is peculiar. The left leg swings from hip after the manner of hemiplegia, but the right leg is apparently weak, the foot dragged forward and seldom lifted from floor.

General appearance. General nutrition is good. When asked how she feels replies, "All right."

Chest expands fairly well, better on the right than on the left side.

Ocular Group. The optic axes are not parallel. There is no nystagmus.

The muscles of expression, both the upper and the lower groups, appear to act better on the left than on the right side.

Articulation is poor, being largely of the type of infantile stammer.

There are many small choreiform movements involving both extremities on the left side, but not affecting the right side except for an insignificant tremor of the right hand. There is athetosis present in both extremities on the left side.

Reflexes. Superficial reflexes are present and normal. Plantar reflex is absent on the left side. Deep reflexes are present and exaggerated, more so on the left side.

This girl has an epileptic suggestion, violent at times. She is idle. She controls choreiform and contracture movements by grabbing her left arm with her right hand. Her right leg holds left leg in check.

She helps to dress and undress herself and is tidy in her personal habits.

Diagnosis. Infantile cerebral palsy. Left hemiplegic with some weakness on right side.

She passed 26 tests of 50 required. Intelligence of 6 years. Retardation 8. Ranks as a high grade imbecile.

Max X. was admitted February 11, 1907. His father is a woodturner; age 32. Mother, age 29.

Child was first born; labor normal. At the age of one year he had meningitis with convulsions and on the third day of the disease got paralysis on the right side. It was supposed at the time that he was infected through vaccination. He had convulsions twice a year until 1906.

Height 62.5 inches; weight 117 lbs.; stretch of arms 59.75 inches.

	Cm.
Circumference of skull.....	51.2

Naso-occipital arc .....	31
Naso-bregmatic arc .....	11.9
Bregmatic-lambdoid arc .....	12.4
Binauricular arc .....	39.5
Antero-posterior diameter .....	16.2
Greatest transverse diameter .....	14.7
Binauricular diameter .....	14.3
Cephalic index.....	.90

Face is prognathous. The features are coarse. The right naso-labial fold is more pronounced. He has internal strabismus; tongue protrudes to the left. The left shoulder girdle is larger than the right, the left clavicle is one inch longer. The left scapula is larger.

Upper limbs. The right arm is moderately flexed at the elbow, shows marked retardation of development and impaired function.

Right arm .....	22.5 inches long
Left arm .....	26.25 inches long

Circumference of the right arm and forearm about one inch less than left arm.

Lower limbs. The right leg is 1.75 inches shorter than the left.

Thigh: Circumference of right 16.5 inches, of left, 17.5 inches.

Calf: Circumference of right, 11.25 inches, of left, 12.5 inches.

Lower group of facial muscles do not move as well on the left side as on the right.

The general musculature on left side is quite good. The right side of the body is in a state of spastic paralysis. The dynamometer showed the grip to be 25 kilos in the left hand and 2 kilos in the right. The fingers of the right hand can be hyperextended. The gait is that of a hemiplegic. Electrical reaction not affected.

Babinski sign is present in the right foot.

Superficial reflexes are present and normal.

Deep reflexes are exaggerated; more so on the right side. He is tidy, has a strong, violent temper and is easily disturbed.

In a resume of 25 cases, the conditions found were as follows: 9 male.

Hemiplegics: Right side 5; left side 4; athetosis 6; talipes 7; talipomanus 6.

Order of birth: 4 second born; 4 first born; 1 no record.

Onset: convulsions 8; strabismus 5; heredity 5; epilepsy 6; normal labor 5.

Intelligence:	Real Age	Mental Age
	19	10
	13	5
	12	8

1 Middle grade imbecile; 1 middle grade moron; 1 low grade moron; 1 moron; 5 no tests made.

Female 16; hemiplegics, right side, 11; left



side 5; athetosis 13; talipes 13; talipomanus 12.

Order of birth: 4 first born; 2 second born; 3 third born; 1 fourth born; 2 fifth born; 2 ninth born. 2 no record.

Onset: convulsions 13; strabismus 7; heredity 9; epilepsy 12; normal labor 12; abnormal labor 1; no record 3.

Intelligence:	Real Age	Mental Age
	19	1
	18	5
	15	7
	15	2
	36	6
	30	7
	14	3
	15	2
	14	6
	15	5
	30	5
	23	1
	25	6
	25	3

Six middle grade imbeciles; four low grade morons; two high grade idiots; two low grade idiots; two no record.

*Paraplegia*, as the name implies, is a paralysis of the lower extremity of an infantile cerebral variety. This condition is more rare than the other forms of cerebral palsies although with the hydrocephalic form a paraplegia is frequently associated.

The symptoms are very similar to those of a spastic cerebral diplegia with the exception that there is little or no demonstrable involvement of the upper extremity, while the lowers may be affected in degree from a spasticity shown in the muscle tone and the spastic gait to a complete loss of function, making ambulation impossible and confinement in bed or movement by wheel chair necessary. The intellect is less impaired and the genitalia remain juvenile. There is marked contrast in some cases between the body above the hip and below the hip and atrophic state is noted. The limbs are usually closely adducted, the knees touching while the feet tend to abduct and form one of the talipes. The limbs are held quite rigid and there is a marked exaggerated knee reflexes.

The fingers, hands and arms of the upper extremities may perform very delicate movements.

The condition does not improve physically nor is there a progressive mental growth, consequently this condition should not be confused with "Little's Disease," in which there is a steady physical and mental improvement. Of the 118 cases examined only one was a paraplegic although in several hydrocephalics there was an associated paraplegia.

Nellie P. Born June 22, 1892. Admitted November 1, 1905.

Family History. Father died at 68 of some "nervous trouble." He also had tuberculosis. He was a



Left Hemiplegia.

drunkard before the birth of this child. The mother is an epileptic and has been an inmate of a state asylum. Father's father was a drunkard; the mother's father died of "consumption." Both father's and mother's families had cases of scrofula and consumption. The two first children of the family died two and ten hours after birth. The fourth child is living and reported well.

Personal History. This child was third born. The mother was particularly abused at second month of pregnancy. Peculiarity said to have dated from birth. Convulsions. At fourth month of age the child had a skin eruption. At third month of age she had brain fever. She began to talk at 4 years. She has had otitis media. She did good work in school.

Height 153.5 cm.; weight 115.5 lbs.; stretch of arms 157.2 cm.

Skull Measurements:

	Cm.
Head, circumference .....	55.2
Naso-occipital arc .....	30.4
Naso-bregmatic arc .....	13
Bregmato-lambdoid arc .....	12.4
Binauricular arc .....	31
Occipito-frontal diameter .....	19.2
Greatest transverse diameter .....	15
Binaural diameter .....	13.1
Cephalic index .....	.77

The head is symmetrically formed.

Face. Features are good. The right corner of the mouth is drawn down slightly. Lips are normal. Eyes are good. Ears are good; also tongue and thyroid.

The upper limbs are normally and symmetrically formed, strength is good. The fingers show hyperextensibility.

The lower limbs are stiff and spastic. Both feet show pes planus, which is more severe in the left foot. Skin is of good color.

The body is of normal size. Body balance is relaxed. There is a right lateral scoliosis present.

Gait is extremely spastic, both feet being dragged and the body being swung from side to side in walking.

When asked how she feels replies, "All right."

Her pulse is 80.

Special Senses. Smell: Asafetida is called "sassafras"; cinnamon is called "peppermint"; wintergreen she does not recognize; oil of peppermint is recognized. Pupils are negative. Vision is practically good. Taste: Sugar, salt, quinine and vinegar are all recognized and named. Hearing is slightly defective.

Cutaneous sensibility and deep sensibility are negative. Muscular coordination is fair.

Voice is smooth, articulation defective, suggesting infantile stammer. Deglutition is normal.

Reflexes. Superficial present and normal; deep reflexes are exaggerated.

This girl is well oriented as to time, place and person. She has a good memory of recent and remote events. She is trustworthy and an excellent worker. She makes beds and helps in storeroom. Is able to dress and undress and helps other children.

Diagnosis: Infantile cerebral palsy; paraplegic type.

*Diagnosis.*—The diagnosis of infantile cerebral palsy is comparatively simple if a careful study is made of the history of the family and particularly the mode of onset and the time of appearance of the symptoms. The great majority of the cases occur during the first year or the symptoms show themselves during that time. In the hydrocephalic form the dome-shaped

cranium of abnormal size with usually a divergent strabismus and spasticity of greater or less degree with mental impairment and weakened lowers can hardly be mistaken for anything else. While the hemiplegic type associated with spasticity and the juvenile history of development are clear, the diplegias may take a longer time to clearly demonstrate as age advances, the athetosis, chorea, exaggerated deep reflexes and spasticity of both upper and lower extremities often more exaggerated on one side with more or less mental retardation presents a clear clinical picture.

These diplegias are not to be confused with Little's disease, which is an improvable form of cerebral insult where little or no mental deterioration remains and a steady improvement physically and mentally is the rule. The onset is usually a premature birth or a birth at term of a markedly undeveloped child.

*Prognosis.*—The different forms of the clinical picture of the cerebral insult are very prone to remain stationary as far as improvement is concerned. The greatest mortality is apt to occur when the initial convulsion introduces the clinical picture during the first year of infancy. From that time on until adult life the defect is brought more in contrast with the better growing, developing part and accentuates the finding.

The life of those who reach maturity is brought to a close by some intercurrent affection usually tuberculosis or a pneumonia or a status or exhaustion from epilepsy in those who are so afflicted.

*Treatment.*—Infantile cerebral palsies begin at birth or as soon as the earliest indications of cerebral involvement can be ascertained. Paralysis early may be so extensive as to prevent normal nursing and artificial feed may have to be resorted to; also the alimentary tract should be carefully studied; free and open catharsis is indicated. The food should be simple and nutritious as well as easily assimilated as the general nutrition tends to be poor. Early manipulation and massage of the bones, joint, muscles and other tissues will assist the circulatory apparatus in toning and innervating the various tissues. As time goes on the proper culture of speech and sense training is indicated. Walking is usually delayed and sometimes never becomes possible, perambulators and other walking devices are in



use. In the hydrocephalic trephining and tapping of ventricles has been attempted only to result in death or a refilling of the emptied cavity. In the hemiplegic form as well as the diplegic form tenotomy, transplantation of tendons and other surgical procedures have been resorted to in order to relieve the various contractions and reduce deformities; also orthopedic appliances of many kinds can be judiciously used with much good.

Many cases due to mental retardation and the expensiveness unavoidable in private care soon gravitate to larger and more charitable institutions.

In the cases associated with epilepsy more care and safeguards must be placed about them in order to prevent the accidents and injuries so common to the epileptic. The spasms or convulsions which are usually of a grand mal type are reduced by hydrotherapy or drugs. The drugs used most often are chloral, bromides, morphin and chloroform.

6860 S. Halsted street.

#### FORTY YEARS' EXPERIENCE IN CONSTRUCTION AND ADMINISTRATION FOR THE INSANE IN THE MIDDLE WEST\*

RICHARD DEWEY, M. D.

WAUWATOSA, WIS.

I will endeavor in my remarks to cover very briefly the period during which I have been actively engaged in the work of psychiatry. My first experience was early in 1872 as assistant physician in the State Hospital at Elgin, then newly opened.

It was noteworthy that at that time a large amount of agitation and discussion concerning the care and treatment of the insane was rife in this community and throughout the country. There had been, heretofore, a process of development of institutions for the insane upon very narrow and stereotyped lines, speaking from an architectural standpoint. Practically the only type of institution known in those days was an institution built upon the linear or corridor, or so-called "Kirkbride" plan, following the lines largely of an ancient monastery. The institutions through the country varied in size, but all

of them practically consisted of a central building with wings upon the right and left for the male and female patients, three, four, and in some cases five stories high, with central service buildings. The main central building was usually stately, ornate and palatial in style, as became the dignity of the state and befitted local pride, and these were the determining ideas rather than the needs of the unfortunate inmates. The whole arrangement was as little like the ordinary house and home as the cages of the zoological garden are like the native forest. This plan of construction, however, called the "congregate" or "Kirkbride" style, was an approved and orthodox thing and, like other established institutions, was considered the only correct and proper form in which an institution of the kind could be constructed. All classes of the insane, as well as epileptic, criminal, alcoholic and drug victims were here brought together in a rather indiscriminate manner.

On the other hand, the original thinkers and agitators for progress began to advocate more natural and homelike arrangements, and a battle of ideas was waged around this question of architectural construction, and many severe verbal assaults were made before any effect could be observed; but the advocates of the so-called "cottage-system" of "segregate" instead of "congregate" buildings of detached wards of house-like and home-like construction continued the attack and finally succeeded in Illinois in having an appropriation made for a new institution. The law creating this institution also provided for detached wards or so-called "cottages," and this was the beginning of the new departure inaugurated at Kankakee, where for 14 years, from 1879 to 1893, I was charged with the duty of directing the growth and development. This institution built upon the "village" plan prepared the way for breaking loose from the congregate or linear style of construction which had previously universally prevailed. And here I may quote from my first report the statement of the special aims that were striven for:

"First: How moderate the expense of erecting suitable buildings for the insane could be made.

"Second: Whether occupation which would be beneficial in every sense could be secured for a majority of the inmates.

\*Read at a meeting of alienists and neurologists held under the auspices of the Chicago Medical Society, June 23-25, 1913.

"Third: To what extent the rigor of confinement and restraint could be removed, and a natural and somewhat domestic mode of life be introduced among our patients."

It may be well to recall the important factors operative in suggesting and preparing the minds of the people generally for this new departure. These may be briefly stated: First, the experience in foreign countries of the successful management of the insane in buildings of more ordinary construction or actually in the houses and homes of people who were willing to accept them as pensioners or boarders. The insane colony at Gheel, Belgium, where more than 2,000 insane patients were quartered as boarders in families of the peasantry; the colony at Alt. (Scherbitz), Germany, and various other institutions in France and Germany, where farm life and various other industries were successfully maintained, also the system of "boarding out" the insane in Scotland; a system also followed in Sweden, while in America a different style of construction had in some sense been already inaugurated. At London, Canada, two or three detached wards had been built and occupied as an annex. There had been a large detached development in an extensive group of small detached asylums though still on the "linear" style of construction at the Willard, N. Y., institution for the chronic insane, the difference being in their detached situation. These buildings accommodated each four or five hundred and were erected at an expense, up to that time unprecedentedly small, of about \$500 per capita. The newer ideas, which it was our task to introduce and give practical form to, were not only of domestic houselike or "cottage" construction, but of the erection of buildings at a more moderate and practicable expense. Institutions for the insane had continued to multiply, but it had become more and more evident that the numbers of insane were rapidly outstripping the means provided for their care. Indeed, a wave of extravagance swept over the country, which in the end raised some prejudice against the state institutions and the palatial style of construction. Two institutions were built in New York state which cost in construction between \$3,000 and \$4,000 for each individual that could be accommodated in them. The same extravagance appeared in Massachusetts. In the Dan-

vers institute it was stated the stately center building contained a spacious banquet hall for the officers. Similar extravagance was reported in New York and other states. It was also seen that no state could afford to spend for each insane inhabitant a sum that would buy a farm or a better house and lot than the average citizen could afford to live in.

The departure in style of construction at Kankakee was followed quite promptly by other innovations in the middle western states for, while the impetus had perhaps come from the east and especially from Willard, it was in the middle west, namely in Illinois, Indiana and Ohio that the first institutions of pronounced detached or "cottage" form of construction were erected.

Gradually but steadily variety in construction was introduced and the steps by which freedom in plan was obtained are indicated by the following instances in their chronological order; the states which successively up to the year 1890 established institutions on the "cottage" or detached ward plan:

Illinois, at Kankakee, opened December, 1880, three detached wards for 100 patients. In 1890 there were at Kankakee 1,350 patients in detached wards out of a total of 1,675.

Ohio, at Toledo, opened a state hospital wholly on the cottage plan in January, 1888. There were 1,097 inmates all in "cottages" in 1890 at this institution.

Indiana, at Logansport, provided in July, 1888, for 380 patients "village plan"; and at Richmond in July, 1890, for 400 patients in detached cottages.

North Dakota, at Jamestown, opened in April, 1885, provided for 160 patients, all buildings detached.

New York, at Ogdensburg, opened in the fall of 1890, for 300 patients in detached blocks; capacity later reached 1,500 patients.

Ontario, Canada, at Toronto, 1890, 240 patients in detached wards.

New York City, Central Islip, L. I., opened May, 1889, 360 patients.

The cost of construction per capita in all the above instances varied between \$400 and \$500 per capita.

The process of differentiation in construction as thus illustrated was continued until today it



seems curious that any one stereotyped system should ever have been insisted upon, as the utmost variety prevails in all the newer institutions. Of equal importance with variation in construction, and going hand in hand with it, is the differentiation of the insane into groups, each requiring different treatment and environment from the other. These groups or classes of patients can, in some cases, be separated within the same institution or building; others require entire separation in location and administration.

More than a quarter of a century ago I had the honor of advocating before the Association of Superintendents the entire separation of epileptic, alcoholic and criminally insane patients from the general mass of the insane, and of showing why each class required separate provision. Others had previously advanced the same plea, and the principles involved in such separation have now come to be universally recognized, although alas! only partially acted upon in practice. Nearly all the more progressive states, however, today have at least made a beginning. It is nowhere denied that the epileptic should be cared for in institutions of their own, and several epileptic colonies are doing valuable service. The insane convicts have been separated to a great extent from the insane who are innocent of crime, and separate provision for victims of alcohol has been made in many states, though material realization of these needs still halts far behind theoretical recognition of them.

Finally the most important change of all, itself an essential element in the "newer ideas of construction," the "psychopathic hospital" and the "psychiatric clinic," are at last realized. Separate detached wards for the acute, curable and convalescent cases began to be provided at once as a part of the new movement and *pari passu* with the development of the modern hospital with its attendant system of laboratories, the treatment of the acute insane has grown and expanded in manifold measure. One of the earliest steps taken was the addition of the "ward for nervous and insane cases," at the Albany, N. Y., hospital under the leadership of Dr. J. M. Mosher, and our large cities have provided for the insane in their detention and emergency pavilions and wards, until such provision is now recognized as essential. If further evidence is

needed of the newer and better day for the sufferers from nervous and mental maladies, we have only to look at the state psychopathic institute already in operation in Illinois at Kankakee and at the psychiatric clinics recently inaugurated at Boston and Baltimore, the former by the city of Boston, the latter by the munificence of Mr. Phipps.

#### THE NEED OF A PLAN TO ELIMINATE THE MENTALLY UNFIT FROM SERVICE IN TRANSPORTATION COMPANIES\*

THEODORE DILLER, M. D.

PITTSBURGH, PA.

Associate Professor of Neurology, University of Pittsburgh;  
Physician to Psychopathic Department of St. Francis  
Hospital; Neurologist to the Allegheny General Hospital.

For nine months past I have been serving as consulting neurologist to a large railroad company; and during this short period I have been called upon to examine five employes of the railroad, four of whom were found to be suffering from parietic dementia. Two of these men were engineers, one a fireman and the fourth a switchman. Another man suffered from a type of confusional insanity, perhaps dependent upon arteriosclerosis. In the case of the switchman, this man was on duty at the time I examined him. His case was one of the quiet dementing type of paresis and the progress had been slow. The clinical examination and laboratory tests left no room for doubt as to the diagnosis. The cases of the engineers and the firemen were all well developed when I saw them and at the time they were all off duty. It must be supposed, however, that all of them, for shorter or longer periods of time, were on duty while suffering from paresis; nor could one think of any plan by which it would be possible to eliminate from railroad service cases of parietic dementia at its very beginning.

This experience has set me to thinking over this whole subject; and the very natural thought comes to my mind that the railroad employes who become mentally disabled either by reason of parietic dementia, arteriosclerosis, cerebral syphilis or any other cause should be eliminated from the service as promptly as possible.

\*Read before the Association of Baltimore and Ohio Surgeons at Pittsburgh and at a meeting of alienists and neurologists held under the auspices of the Chicago Medical Society, June 23-25, 1913.

Attention has already been called to this subject by Knapp<sup>1</sup> and Dunton.<sup>2</sup> Knapp states that five out of fifty men suffering from paresis seen in the out-patient department for nervous diseases at the Boston City Hospital were employes of transportation companies; and he learned that out of 263 general paralytics in various insane hospitals of Massachusetts, nine were railroad employes; and he shows further "that general paralysis, or other chronic diseases of the brain attended with mental disturbances, was not infrequently found in railroad employes rendering them less reliable and less accidents may, and probably have, arisen by reason of the existence of mental disease in employees rendering them less reliable and less competent. He says truly: "These diseases, as we know, are of insidious onset, and the family often think at first that they are of trifling consequence. The patient feels unable to give up his work and the attendant physician fails to recognize the real gravity of the trouble long after it is evident to the skilled neurologist."

In similar way Dunton argues the same question. In one case mentioned by Dunton an employe suffering from epilepsy declined to give up his position although advised to do so. In this case Dunton felt that the proper course was to inform the railroad company and to disregard the old oath of professional secrecy. I may state here that I have had one case exactly similar to this. A railroad fireman suffering from epilepsy consulted me. I advised him in the strongest terms to give up his position; when he demurred about doing so I warned him if he did not I would feel called upon to make a voluntary statement to the company regarding his condition, and to warn them of the danger which might occur by reason of his continuance in their employment.

These conditions at once suggested the need of systematic examinations of railroad and other transportation employes to determine their mental integrity and especially such employes as are engaged in transportation. It is now well recognized in railroad circles that it is absolutely necessary that signals to be conveyed to the eye and ear must be understood and acted

upon; and hence tests for sight and hearing of employes are made regularly and systematically. It is very well understood that there may be, as regards the mind, a slow, insidious involvement such as we see in paresis, cerebral syphilis, arteriosclerosis, etc., which may escape the attention of the ordinary observer and indeed of the railroad surgeon. So it appears to me that railroad companies should take up this question for very practical consideration and set in operation some scheme by which the mental integrity of all employes engaged in transportation should be inquired into systematically from time to time by a medical man, who has had training in mental diseases. Such an examiner could doubtless be materially assisted by some practical railroad man in giving tests which would constitute a practical examination to supplement that of the physician.

I am making this recommendation in the hope that it may be taken up in some practical form for consideration by this body. That the Relief Department of the Baltimore & Ohio Railroad is alive to the question which I am raising in my paper may be seen by the following quotation from a letter written to me by Dr. S. R. Barr, superintendent of the Relief Department.

The relief department has time and again reported as unfit for railroad service employes afflicted with nervous and other disorders. Invariably our recommendations have been carried out and the persons so reported removed from the service entirely or provided with work which they were able to perform without endangering their own or the lives of others. However, we have not secured authority to make periodical examinations of employes, many of whom have been in the service many years, except as to sight, hearing and color sense. I am fully aware that it is desirable to have engineers and firemen, especially, undergo physical examination every two or three years, for instance, and I hope yet to succeed in convincing our superiors of its importance.

It is our present practice to make sure that every man is fit for his work after severe illnesses, but that is the only condition under which we are in position to acquire information of this character. At this time I know of quite a number of men in the entire service who are not permitted to work by reason of mental trouble, nervous or heart disease and other ailments. If any such are at work we know nothing of it.

It is plain then that the Relief Department of the Baltimore & Ohio Railroad is doing all it can under the present authority to eliminate

1. In a paper read at a meeting of the Boston Society of Psychiatry and Neurology, January 17, 1907.

2. Paper read before the American Medical Association, June 26, 1909.



from its service the mentally unfit. And we must all hope that the time will very soon come when engineers, firemen and switchmen shall be required from time to time to undergo an examination to determine the question of their fitness, both from a mental and physical point of view, to continue at their occupation. If this is brought about it will work some hardship on the part of the men. But the question as to whether or not the mentally unfit should be allowed to continue in transportation service of railroads cannot admit of any discussion.

#### DISCUSSION.

Dr. A. E. Sterne, Indianapolis, Ind.: *Mr. Chairman*; This is a subject of great interest. We have all of us seen examples of disaster which have arisen from causes such as have been spoken of and others which have been merely indicated by the words of Dr. Diller.

Last week Dr. Camp of Ann Arbor brought up this subject in the Neurological Section of the American Medical Association, and a set of resolutions was adopted looking toward the recommendation to the standing committee, I think, of the American Medical Association, so that this committee could communicate with the officers of the railroads, in order to prevent just such contingencies from arising.

In reference to what Dr. Diller says, I should append thereto the malady which we speak of as epilepsy most insistently. I think epilepsy probably more than any other disease offers a serious danger when it occurs, and notably when it larvally occurs (that is the serious point) in individuals who occupy important positions in transportation companies.

In beginning paresis it is very difficult to determine oftentimes just the exact status of the individual, and Dr. Diller has suggested a way—and the only way, I should say—in which it is possible to prevent conditions of this kind, namely, frequent and repeated examinations, and thorough examinations of these men—not simply superficial ones, but careful examinations. It is a notable fact that engineers not infrequently suffer from tinnitus aurium, but as long as they remain in good health they can control these sounds pretty well, and relegate the auditory impression to its proper sphere. When, however, anything happens to these individuals which reduces the physical coefficient and thereby reduces their ability to determine exactly the nature of the sounds they hear, they are prone to be beset by various fallacious ideas which originate from conditions that have been present, but controlled, for many, many years. I have seen several such cases, and in two instances, based upon actual ear trouble, typical paranoid complexes developed.

Those of you who live in or near Chicago will recall just a few years ago a very serious wreck that

occurred somewhere between 53rd and 54th streets, due to the tower man at that station, who suddenly became obsessed with the idea of harm coming to him through agencies outside. He left his tower unprotected, ran away from it to the station, where it was found, naturally, that something was wrong with him. A relief man was hastened to the tower, but in the meantime a serious wreck occurred and several people were killed. That disaster could have been averted by such examinations as Dr. Diller recommends. That young man is now in a state insane asylum at Indianapolis—a very characteristic case of paranoid dementia praecox. The chances are that some indications of the condition were manifest prior to this accident.

The difficulty, it seems to me, arises in a twofold way. I believe the officials of the railroads are anxious, not only from the humanitarian, but from an economic standpoint, to arrive at some satisfactory solution. I believe that difficulty would be encountered from the side of the men—from the unions, the labor unions, and also from the patient's family. The chances are they would conceal as much as possible of the history of these individuals, because the family is dependent upon the salary of these individuals, and they would have a selfish interest in keeping quiet about these conditions as long as possible. But some method should be arrived at to minimize as much as possible the disasters which occur in these seeming cases of individual neglect which not infrequently are due not to neglect, but to illness.

Dr. James W. Milligan, Michigan City, Ind.: I should like to emphasize, if possible, the excellent point brought out in the paper. It is certainly an encouraging sign of the times when such a corporation as the one to which the doctor belongs is not only examining the watches of its men, but examining the men before the watches, or taking steps looking in that direction. It is certainly no less important to examine the man than it is the watch, and in recognizing this importance the railroad has made a step in advance. This organization is probably the best of any in the country when it comes to the manner in which it handles its men. I do not know that there are other corporations that are drawing the alcohol line as closely as the Baltimore & Ohio or not, but I hope there are.

I would like to ask whether any of the gentlemen present have found that general paresis is especially prevalent among engineers. I have sometimes thought it was and sometimes that it was not.

Dr. Diller: Yes, it has been prevalent in my experience. But I have had only one year's experience in railroad work.

Dr. A. G. Wittman, Elgin, Ill.: A peculiar situation arises when one of these railroad employes consults a general practitioner and he finds that he is suffering from some disease that lowers his efficiency. A number of years ago I had a railroad em-

ploye under my care who suffered from epilepsy. He had been with the railroad for some four years. During these four years he had had at least two attacks of epilepsy while in what we call the cupola of the caboose, and fell to the floor. One of his first attacks he had during the first year that he was employed there. This illustrates further the difficulty in getting the employes to cooperate or report this condition. This man came to me for advice for another condition, and this history was elicited from him. Then came the question of medical ethics. A man in this condition being your patient, are you supposed to report him and leave him jobless, or is it your duty to notify the railroad company? After some consideration the railroad company was notified in this case, and the man was removed from the railroad service.

Dr. T. B. Throckmorton, Des Moines, Iowa: I feel that Dr. Diller has brought before this society a very timely communication on this subject, and while at first glance it might seem a little out of place in this meeting, yet I feel it is a subject in which we are all sincerely interested. Recently I have had some interesting as well as some amusing circumstances in the examination of railroad employes. As some of you no doubt are well aware, these examinations are and have been largely a matter of routine, so that a man who has been examined by several different roads is largely onto the ropes of this examination. The other day a railroad man came into the office, and laying down the examination paper, said, "I would like to get examined. It does not amount to anything, but the road sent me up here." As a matter of habit, the surgeon in examining the abdomen will always attempt to elicit some abdominal tenderness. So, in examining these men, I have gone carefully over the eye findings, as to the eye movements, and especially as to the pupillary findings, and have also made an examination of the deep reflexes, especially of the lower extremities. When I got through with the man referred to, he said: "I have railroaded from San Francisco to Cleveland; I have been in the United States army and in the United States navy, but I never had anything like this before. Is there something the matter with me?" I told him that out here in this part of the country these examinations were not quite so much a matter of red tape. The railroad wants to know if there is anything wrong with the man.

Dr. Theodore Diller, Pittsburgh, Pa. (closing): I am glad the subject of epilepsy was mentioned. I neglected to speak of it, although I have mentioned it in my paper. It is an extremely important matter, and, of course, it would disqualify a man. I recall a patient I saw several years ago. He came to me as a private patient, to my office, and I learned from him that he suffered from epileptic seizures, and I learned also that he was fireman on a railroad. After I was through with my examination I said to him that he ought to give up his position, because he

might get a convulsion or a fit at some critical time. I told him that it was not right that he should work on. He said to me, "I can't do it; I have a wife and three children dependent upon me for support. I can't give up my position." And I said to him, "You must give it up. You must, and if you don't do it voluntarily, I shall take it upon myself to write to the officers of the company and tell them what is the matter with you, and you will be discharged." This answers the question raised by Dr. Wittman as to the ethics, from my own point of view. It looks to me as though, in a case like this, where the good of the public ought to be put ahead of the good of the individual, we should take this position, and I had no qualms of conscience about breaking the Hippocratic oath in this case. I think it was the plain thing to do. But I did not have to write such a letter. I kept track of the man and learned that he did give up his position and go away.

As to retiring these men, I think the point was made very well by Dr. Sterne that the greatest difficulty would come not from the companies, not from the officers, but from the men themselves and their partners. They do not want to tell on a man they see going down. They hate to see him lose his job and the money which it brings. I think that it is, of course, a great hardship for a man to lose his place, and I believe that it is not only a humane thing, but also a good business policy for the companies to give pretty good allowances to all men who are retired for physical or mental defects. The facts in these cases are so often concealed by the employes and fellow employes.

Speaking of resolutions, I believe that it would be a good thing for this meeting to pass a resolution condemning absolutely the use of alcohol by all men engaged in the transportation service of railroad and steamship companies. I think it would have some effect, coming from this meeting. There are a few railroads taking this stand now. It would strengthen them, and it would lead the others to take it up, perhaps.

## THE CAUSES OF ACQUIRED INSANITY\*

J. CHESTON KING, A. B., M. D.

ATLANTA, GA.

We see in the history of medical science today the grotesque forms of knowledge, the extinct creation of observant, thoughtful men; in the light we view them today, seeing how unfit they are to be associated with the forms and conditions of knowledge, we at once conclude that they were not only shortcomings but errors, like unto species decaying and dying out; deflections from the true route of progress.

But in that day and time, they served as a

\*Read at a meeting of alienists and neurologists held under the auspices of the Chicago Medical Society, June 23-25, 1913.



complete basis for science, they were as parts of an organic system, complete for that time and potent for a better future. To those who possessed them, they were right, even as to ourselves much of our knowledge is; though a century from now, truths that seemed complete will be like extinct or monstrous forms and happy should we be if some of the doctrines we enunciate from this notable meeting—called together under the auspices of the progressive Chicago Medical Society, in whose ranks are to be found men whose influences reaches far beyond the time and space of their conscious activity—will remain in science with the same meanings as they now bear.

Even if our labors in our special line of work have been like waves in advance of the oncoming tide, we are recompensed. A few may watch them and think them grand and beautiful, but they may break on the shore in what seemed like only trouble and confusion, and the tide passes over them and hides the treasures they have borne. But another generation may come and uncover these treasures and worthily display them.

Even to this day and time every writer on acquired insanity has suggested a special classification of the forms, founded either upon the etiology or symptomatology of the disease; and the numberless classifications founded on psychologic considerations that have been advanced differ more in terminology than in principle and when analyzed are reducible to the principle forms of Hippocrates.

#### MANIA—MELANCHOLIA AND DEMENTIA

Dr. J. Batty Tuke adopts the following system based upon the proposition of Morel, which marked a great advance in the study of insanity:

1. Idiopathic insanity: Idiopathic mania, melancholia and dementia, general paralysis of the insane.

2. Traumatic insanity.

3. The insanities associated with other neuroses: Epileptic insanity, hysterical insanity, hypochondriacal insanity.

4. Insanity resulting from the presence of adventitious products.

5. Insanities resulting from morbid conditions of the general system: Phthisical insanity, rheumatic insanity, gouty insanity, syphilitic in-

sanity, insanity from sunstroke, anemic insanity.

6. Insanities occurring at evolutionary periods: Climacteric insanity, senile insanity, insanity of pregnancy, puerperal insanity.

7. Toxic insanity: Alcoholism, morphinism, plumbism, hydrargyrisim, cocaineism, absynthism, and in fact all those drugs and agents, which induce structural alterations or perversions of the functional operations of the cerebro spinal system.

I have after critical study and analysis been able to refer those cases of acquired insanity, which have been under my professional care, to the following causes:

1. Hereditary constitution of the cerebrospinal nervous system, induced by intemperance, syphilis, and other causes acting upon one or both parents. Hereditary insanity, implying hereditary weakness of the nervous system, generally comes on without the interruption of appreciable exciting causes. The nervous system seems to be peculiarly liable to be involved in the effect of hereditary degeneracy, and this is frequently evinced by the occurrence of mental symptoms at those periods of life where either rapid structural development takes place, special functional altering is and was exhibited or is ultimately arrested or upon the advent of senile decay.

We have then an insanity of pubescence, a climacteric insanity and a senile insanity. Idiocy and imbecility are frequent results of hereditary weakness, showing itself during fetal life or during the period of dentition. The insanity which often affects women at parturition, insanity of pubescence, climacteric and senile insanity may often be traced to hereditary weakness of the nervous system.

*Masturbation.* The excitement incident to the habitual and frequent indulgence of the unnatural practice of masturbation leads to the most serious constitutional effects and in some cases to the loss of the higher moral feelings, entire degradation of the moral sense and hopeless insanity. The effects of masturbation are more especially manifested in the nervous system, the functions of which are more or less prevented. The mental faculties become more or less affected, there is great despondency, loss of memory, irritability, irregular action of the heart, derangement of digestion, prostration of strength, neuralgic pains. There is a general loss of health

and strength; chronic hypochondriacal invalidism, epileptic seizure, ending in many cases in hopeless insanity.

Guardians, parents and teachers cannot be too careful in guarding those entrusted to their care from this most degrading and pernicious of all habits. The effects of masturbation in inducing insanity may be witnessed in its victim long after the cessation of the pernicious practice.

*Alcoholic Poisoning.* 3. Alcoholic insanity is met with in three forms: 1. Acute alcoholic insanity. 2. Chronic alcoholic insanity. 3. Delirium tremens.

Acute alcoholic insanity seldom occurs except when there is a strong hereditary tendency to mental disturbance, or when the cerebral energies have been notably impaired by excesses or overwork. When all the predisposing causes exist it may not require a large dose of alcohol to bring on an attack. The most frequent form of the affection is violent maniacal delirium, known as mania a potu, with a tendency to homicidal acts. In some cases the mental disorder takes the melancholic form, and it becomes necessary to guard against the strong suicidal tendency.

Chronic alcoholic insanity is one of the results of chronic alcoholism and illustrates in a forceful manner the solidarity of the psychical and somatic functions of the nervous system and the interdependence of their morbid manifestations. The mental symptoms are generally all present from the beginning. The sleeplessness so characteristic of commencing disorder is an early symptom; then restlessness and depression with suicidal tendency, sometimes passing rapidly into complete dementia, but generally passing through a course of moral and mental degradation, which progresses step by step, with the symptom of failure of the physical nervous power. Chronic alcoholic insanity presents many points of resemblance to general paralysis of the insane, and is in some cases only to be distinguished from it by the presence of mental depression, which is seldom more than a transitory symptom in the general paralysis.

Delirium tremens. It is important to note that after the acute symptoms have passed away, in some cases there is left behind a state of sub-acute insanity of characteristic nature. At first suicidal symptoms are apt to appear, suspicions

of poisoning, fear of impending evil and hallucinations of hearing. The ordinary vinic or ethyl alcohol in any and every shape, as a sufficient exciting cause of alcoholic insanity is beyond doubt. The more concentrated the alcohol is taken, the more surely and rapidly are its characteristic effects induced; and although some beverages give a greater liability to certain forms of disease than to others, yet the ultimate tissue changes produced by all are particularly similar and of a markedly degenerate character. Chronic alcoholic drinking is undoubtedly hereditary in many cases; not that the ancestors have been necessarily drunkards, but that the family is of an unstable nervous organization, and that the neurotic trait, which shows itself in other members in such affections as epilepsy, hysteria, insanity, is manifested in these cases by an intense craving for alcohol. Sometimes a pernicious education by fostering habits of indulgence in early youth has led to subsequent excess and chronic alcoholism; and the injudicious prescribing of stimulants has occasionally been productive of similar harm. It is well known to pathologists that a large amount of ardent spirits acts on the nerve centers as a narcotic poison and causes rapid death by coma, small quantities produce intoxication accompanied with or followed by an acute congestion and catarrh of the alimentary canal, especially of the stomach and duodenum. Habitual dram drinking by altering the chemical composition of the blood and checking the normal changes of its corpuscles, excites an injurious influence on the nutrition of the tissues. This is increased by the lessened consumption of food and the alteration in the caliber of the blood-vessels, set up at first by a special action on the vasomotor nerves, and afterwards maintained by degeneration of their coats, as well as frequently of the heart itself. Alcohol interferes directly with the nutrition of the cell elements of the various organs, including the cerebro-spinal system, as it circulates through them and it retards the elimination of effete materials, carbonic acid, uric acid and urea. In chronic alcoholism the amount of fat in the blood is increased. Chronic congestion and catarrh of the stomach leading to atrophy of the glands and an increase in the sub-mucous connective tissue are very common. The liver is at first enlarged



from congestion and may continue so from a subsequent infiltration of fat, but more frequently it shrinks away to cirrhosis. Emphysema, chronic bronchitis and hypostatic pneumonia are common. The heart is flabby, dilated and presents fatty infiltration and even degeneration of its muscular tissue, but it may be hypertrophied probably as a result of coexistent disease of the kidneys. The arteries and endocardium are studded with other small deposits, the capillaries are congested and the veins varicose. The kidneys exhibit commonly the granular form of Bright's disease. The muscles are pale and flabby, the formation of fat takes place at the expense of the bony texture. The nerve centers are atrophied and tough, the convolutions are shrunken, the nerve cells and nerve fibers are wasted and an increased amount of serous fluid exists in the ventricles and sub-arachnoid space. The abnormal adhesion of the dura mater to the cranium, the large Pacchionian bodies, the opaque arachnoid, and the thickened pia-mater, all testify to an aggravated development of fibrous tissue.

For the above reasons our alms-houses, prisons, hospitals and asylums are filled with diseased, suffering and often incurable human beings.

The last and most prominent cause for acquired insanity is due to the effect of the action of the poison of syphilis. Insanity often results from the degeneration of the ganglionic cells, nerve tissues and from the formation of gummatous tumors upon the various portions of the cerebro-spinal nervous system. When constitutional syphilis affects the brain and nervous system, the mental symptoms that arise are found, in the majority of cases, to present marked similarity in their character. The mental disturbance is generally preceded by distressing sleeplessness; this is followed by increasing depression of mind. Religious anxiety of a peculiarly hopeless character frequently shows itself. The feeling of alarm which accompanies these symptoms sometimes develops into a violent excitement, which may be called maniacal. The development of gummy products within the cranium is frequently evinced by symptoms similar to those of general paralysis. Headache of persistent character, giddiness, vertigo and epileptoid fits occur, accompanied at first with mental depression.

5. Epilepsy—congenital and hereditary.

6. Religious excitement.

The contemplation of certain hypotheses and dogmas held and vehemently urged from the pulpit by some religious sects, have without doubt, produced great excitement and alarm in the minds of persons of excitable and unstable nervous organization. The burning eloquence and moral pictures of the religious enthusiast and fanatic; the horrible revelation of the melancholy and sinister imagination of Dante, have aroused indescribable forebodings and alarm in the souls of the unwary and timid.

The violent exercise of certain sects, during the performance of so-called religious exercises, such as shouting, hopping, jumping, dancing, speaking in unknown tongues, often induce epileptic seizure and inaugurate such exhaustion of the nervous structures as induce religious melancholy and end in hopeless insanity.

It is foreign to this paper to dwell upon all the causes of acquired insanity, for I would have to enter into detail upon the effects of race, occupation, climate, age and education. My only incentive is to bring before this honorable body the most prominent causes of acquired insanity, which will result in exciting the public interest in the most distressed and most unfortunate class of fellow citizens, to the end that abuses may be corrected, wrongs righted and the amount of human suffering lessened.

#### DISCUSSION.

Dr. E. M. Mikkelsen, Chicago: I would like to ask Dr. King where he finds his field of practice, after eliminating alcohol and venereal disease? I have been in this work and general work for years and I have always felt that if we could eliminate alcohol from the world there would be very little left to treat.

Dr. King (closing the discussion): I have nothing further to say except this: When we can inaugurate in our public school system the teaching on these lines, and especially on the line of sexual hygiene, I believe that we will eradicate a large percentage of acquired insanity. It is perfectly astonishing to see the percentage of patients who come absolutely under the classification of functional disorders, and these to a great extent are induced by excesses in different lines of life, excesses in drinking, excesses in the use of tobacco, excesses in eating, excesses in the business strains of life, and under their proper regulation and environment the results are most satisfactory.

## ACUTE ALCOHOLIC INSANITY\*

W. F. LORENZ, M. D.

MENDOTA, WIS.

The frequency with which we encounter acute mental derangement in the course of chronic alcoholism warrants an investigation of the symptoms which characterize these acute manifestations, also, if possible, a designation of types or constitutions in whom these derangements occur. With this purpose in mind 125 cases of alcoholic insanity consecutively admitted during a period of about two years were reviewed. This number represents approximately 17 per cent of the male admissions for all causes; the females were disregarded owing to their infrequency, there being but five cases of this type admitted on the female side during this period. Of these 125 cases, 100 were conditions classified as acute alcoholic insanity. The remaining twenty-five were diagnosed chronic alcoholic insanity and they represented conditions of general mental enfeeblement without particular trend or paranoic conditions of the well known infidelity type.

The acute derangements were sub-grouped into two classes, viz., acute hallucinosis and acute delirium. The latter group contributed 60 per cent and the former 40 per cent of the 100 admitted. The separation of acute hallucinosis and acute delirium is not possible in every instance. The factors which make possible this differentiation are the relative prominence of certain symptoms common to both disorders and in many cases these symptoms are present to an equal degree, consequently the separation into two types becomes impossible. It may be argued that this separation is of no practical value in that the conditions are not separate entities. The latter contention is admitted, yet it is offered that the separation is of value in prognosis as will be shown later. No attempt is made to view these conditions as separable from an etiologic or pathologic standpoint; simply that each offers a clinical picture which in the large majority of cases remains distinct. This difference in clinical manifestation is thought to depend on the anatomical distribution of the same lesion.

The acute disorders irrespective of clinical type have many conditions in common. They occur during the course of chronic alcoholism. They

are acute in onset. They are both characterized by hallucinations and clouding of consciousness of varying degree. In both conditions one observes a reaction of fear and apprehension depending to a large degree upon the extent of disorientation.

When the clouding of consciousness is sufficient to cause a subsequent amnesia for the period of hallucinosis it has been our practice to designate the case as acute delirium. When this amnesia is not present, in other words, when consciousness is less affected and the patient can recall more or less distinctly events that transpired during the period of active hallucinosis, the case is referred to as acute hallucinosis. Yet emphasis is laid upon the fact that a disturbance of consciousness occurs in both types, the degree of disturbance being the means of differentiating these acute conditions.

The acute conditions are furthermore similar in that recovery is frequent yet the course of the disorder is somewhat protracted in the case of acute hallucinosis as compared with acute delirium. Further the few cases that failed to recover, six in all, belonged in every instance to the group of acute hallucinosis while the seven deaths among this series were cases of acute delirium.

As previously mentioned, these conditions are preceded by long and continued use of alcohol. The history obtained is so constant as to become classical of these disorders. Without exception we get an account of the steady use of liquor for a period of years, at first, the lighter beverages, though later the spirituous liquors almost entirely. After a varied period the individual experiences gastric distress particularly on arising. Accompanying this is a loss of appetite bordering on a disgust for food. Within a short time the distress takes the form of nausea, retching or vomiting and at about this time the patient finds a real or fancied relief in the before-breakfast drink.

As a rule, following this gastric disturbance though occasionally preceding or accompanying it, we obtain a history of muscular cramps. These in the vast majority of cases are referred to the calf muscles, frequently the thighs and occasionally the arm and shoulder. In two instances the pain was felt in the small muscles of the hands and forearms. In several instances attacks of facial neuralgia were mentioned. In no case,

\*Read at a meeting of alienists and neurologists held under the auspices of the Chicago Medical Society, June 23-25, 1913.



however, was the history of some distress of this character absent. It is true that many patients look upon these conditions as of rheumatic origin and many will claim that they have had attacks of muscular rheumatism. It has been our practice, however, to view these pains as of neuritic origin.

The cases designated as acute hallucinosis, while rapid in onset, were less so than those referred to as acute delirium. The average duration of mental manifestations previous to hospital admission was three weeks. The onset in the majority of cases was a feeling of uneasiness and strangeness. The usual surroundings appeared somewhat unfamiliar, a mild apprehension following. After a few days, a hissing, buzzing or ringing in the ear developed which soon took the form of the patient's name, later the names of members of his family or friends, then curses and accusations were added. Usually within a week the auditory hallucinations were well marked and attributed to strangers or occasionally acquaintances who were not within the field of vision but just beyond. As a rule, following these manifestations, illusions of sight developed and later hallucinations. Familiar faces are recognized among total strangers. The persecutors who annoy with their constant accusations are frequently seen just at the extremity of the visual field, observed lurking in the shadows, dodging in the hallways or momentarily viewed at the window. Rarely do these patients have a distinct and well defined visual hallucination. The mental distress now becomes very acute; the fear of personal harm dominates the patient's behavior so much so that some made application to the police for protection. In two instances rather than suffer the tortures that were threatened, the patients made a desperate attempt at suicide.

The average length of time during which the hallucinations remain active is six weeks. The visual are of the shortest duration and are the first to disappear. Gradually the auditory become dimmed until they cease entirely. This disappearance of the hallucinations is spread over a period of several days, the last visual are usually seen toward evening. The patient while apparently clear and oriented throughout this period now loses the slight haziness and retentive defects that are demonstrable during this period of hallucino-

sis and becomes normal in his adaptability to his environment.

The seven cases that continued and can be termed chronic hallucinosis showed relatively few visual hallucinations; further in their course the auditory hallucinations alone remained active. The fear reaction became less and less marked until finally the patients were quite indifferent to the voices that persisted. Their retentive faculties became more and more impaired until their memory was considerably affected.

The conditions designated as acute delirium are, in contrast to acute hallucinosis, much more rapid in their onset. Within a day or two, the patient changes from a condition of consciousness to one bordering on the unconscious. Many give a history of uneasiness and restlessness for several days preceding the breakdown. Many have vivid dreams and are sleepless and uneasy at night. Suddenly, as a rule toward evening, they become very confused and at times completely lost to their surroundings. After a few days these patients are brought to the hospital. Without exception they are disoriented for time and place. If momentarily a relevant reply can be obtained from the patient, this confusion is acknowledged. The presence of active visual and auditory hallucinations is evident in the patient's talk and behavior. He begs to be spared; asks piteously when the sentence is to be carried out; whether he is to be burned alive, electrocuted or hanged; he looks about furtively as if expecting bodily harm at any moment. He begs to have his persecutors cease their endless accusations. He calls to attendants by familiar names; complains bitterly of the electricity that is turned on him. He smells noxious fumes in the room and tastes poison in the food. Everything that goes on about him simply has as its ultimate purpose his vilification, torture and destruction.

After a period of a week or so, during which time the hallucinations abate somewhat though the mental confusion continues unchanged, the patient will, as a rule, fall into a deep and prolonged sleep following which he awakes perfectly clear, orients himself and recovers.

When asked as to their past experience, they have a very hazy recollection of what transpired. Many refer to their delirium as "a bad dream." They have no knowledge of the number of days spent at the hospital. While able to relate many

of their hallucinatory experiences they cannot give these in the sequence in which they occurred nor can they associate them to day or night time. Occasionally they have an indistinct recollection of being in the continuous bath or wet pack though this recollection is not fixed and must in many instances be prompted by questions.

The condition just described is without doubt viewed by many as delirium tremens, however, in the selection of these cases, delirium tremens was restricted to those cases that showed great muscular agitation, cold clammy skin with occasional profuse sweats and a delirium of a low muttering type from which the patient could not be aroused. Furthermore in these cases hallucinations and fear reactions were not prominent. They showed more gastro-intestinal disturbance and frequently a temperature. Finally, this latter type of delirium is looked upon as much more serious from the standpoint of prognosis though here the difference is thought to be simply one of clinical manifestation, in this instance, due to the amount of intoxication.

In either of the acute conditions, viz., acute hallucinosis or acute delirium, it is thought that the fear reaction, which is so constant as to be diagnostic, depends upon the clouding of consciousness. In the hallucinatory cases with less disturbance of consciousness though very active hallucinations of threatening and condemnatory character, it was frequently observed that a mild uneasiness and relatively slight apprehension were present while in those whose orientation was more affected this mild reaction became a great and distressing fear. These clinical varieties can be accounted for if one keeps in mind the lesions of the nervous system ascribed to chronic alcoholism. The parenchymatous alterations of the nerve fibres, the chromatolysis of the nerve cells and swollen dendrites described by many investigators offer sufficient ground to assume an impairment of nerve conductivity. In the hallucinatory form it is assumed that peripheral nerves are most affected and this is very strikingly borne out by the physical findings in these cases.

Of the 100 cases examined all showed the classical tremors of chronic alcoholism and equally constant was a tenderness of muscles to deep pressure. Disturbance of deep and superficial reflexes was present in 88 of the 100 cases

examined. The ankle jerks were more constantly absent or much diminished than the knee jerks though the latter were affected in over 60 per cent of the cases. Diminished tactile sensibility, particularly over the lower extremity was very frequent. Some cases showed an increased irritability to painful stimuli in the areas of hypaesthesia. Fourteen cases showed pupillary anomalies in the nature of slight inequality or irregularity of outline and limited reaction. In no instance, however, was the pupillary reaction selective in its limitations, that is, the response to light and accommodation seemed equally affected. These indications of a peripheral neuritis were more constant in the cases of acute hallucinosis than in the deliria. With two exceptions every case of acute hallucinosis gave unmistakable evidence of a peripheral neuritis or residuals attributable to this type of neuritis.

Reviewing the alcoholic habits of these patients, one is impressed at once that the amount of indulgence is not the sole etiologic factor. While many average a pint or more, still an equal number do not exceed three or four drinks per day. Such indulgences are very common, yet of the many so addicted relatively few have the nervous manifestations under discussion. The natural inference is that those developing nervous disorders attributable to alcohol have an inherent susceptibility. This conclusion receives considerable support in the observation that few of these patients showed any of the hepatic, cardiovascular, or nephritic complexes so frequent in chronic alcoholism. It would seem that primarily the nervous system bears the brunt of the intoxication. This vulnerability can in part be accounted for by the defective heredity observed in these cases.

In 62 of the 100 cases reported on, a reliable family history was obtained. An effort was made in each instance to verify as much as possible the history given, the character of the disorder mentioned and its severity. The occurrence of apoplectic attacks, hemiplegias or other forms of paralysis when of early occurrence, epilepsy and hysteria were classed as severe nervous diseases. Suicides and inferiors were included as mental conditions. In selecting only such very evident cases it is probable that many slighter forms of nervous trouble and mental affliction are missed; still accepting only the very evident conditions,



28 of the 62 cases in whom reliable history was obtained showed the presence of nervous disease and insanity in the immediate ancestry of the patient. In 17 cases a history of severe physical disorder among the parents was obtained. Such conditions as tuberculosis, diabetes and in nine cases, cancer. Alcoholism was not frequent among the parents but quite frequent among the brothers of the patients. A surprising result of this review was the frequency with which tuberculosis occurred among the immediate members of the patient's fraternity. In a number of cases several brothers and sisters suffered from pulmonary tuberculosis. Thirty cases of the 62 gave a history of this infection in the immediate members of the family. One could infer from these findings that the progeny of defective parentage not only showed a vulnerability to the toxic effects of alcohol but those not victims of addictions become fruitful soil for the tubercle bacillus.

Contributory causes in the nature of physical illnesses were not frequent. By far the greater number suffered from privation, starvation or physical strain previous to the mental upset. In many mental stress figured prominently as an incidental cause. Less than 10 per cent showed an apparent delay in the hallucinatory manifestations, that is, after a period of abstinence for several days the acute conditions developed. In these instances the patients were under arrest, usually lodged in a town lockup, harassed and annoyed by ignorant police officials, frequently underfed owing to lack of medical supervision in the use of food, all conditions contributing to further lower the individual's resistance and enhance the poisonous effects of the accumulated intoxicant. It was furthermore observed that the patients who developed their acute conditions during abstinence invariably showed greater gastro-intestinal disorder in the nature of coated tongue, foul breath, constipation and intolerance of food. In two instances after several months of hospital residence, a relapse occurred in the nature of a mild hallucinosis. At the time we had quite an epidemic of influenza at the institution and both of these patients were affected just previous to their relapse.

The treatment of the acute conditions can be summarized as eliminative and supportive. To aid elimination, hydrotherapy is in our experi-

ence most effective. The continuous bath at a temperature of 98 or 100 as indicated in the delirious cases, particularly those bordering on delirium tremens, yet when heart action seems particularly affected we found wet packs of more service. These packs are applied cold at a temperature of 50 or 55. Within fifteen minutes if a favorable reaction occurs the pack becomes warm and shortly after the patient breaks into a profuse sweat. He is kept in the pack for another half hour or more, then removed to a quiet room and very frequently sleep ensues. Elimination is further aided by brisk catharsis. It has been our practice to give an initial dose of calomel followed by salines which are continued daily. On admission, almost by routine, these patients are placed on strychnin. If the pulse is feeble and irregular, the drug is given hypodermatically in sufficient doses to regular the heart action. Digitalin is indicated in the delirious cases, particularly those of the severer type. Ordinarily hypnotics are not required. As a rule, the wet pack or continuous bath serves as a sedative. In the severe delirious cases, however, it has been found expedient to employ hypnotics of which paraldehyde is preferred yet many refuse to take this drug and we then use hyoscin and morphin. This combination has been of immense service in our hands. The drugs are given simultaneously in dosage of hyoscin, gr. 0.01 and morphin, gr. 0.25. The action of the morphin seems to sustain the immediate quieting effect of hyoscin and in our experience has a favorable, stimulating effect on the cardiac system. In the hallucinatory forms, hydrotherapeutic measures and brisk catharsis usually suffice to bring about a favorable termination. In either acute condition, however, the administration of nourishment is particularly important. Liquid food in the form of milk, egg-nogs, broths, etc., are given to the limit of indulgence. The patient is encouraged to drink as much water as possible. In cases of gastric intolerance, the administration of a weak solution of cocaine has been very beneficial. After recovery from the acute conditions, continued nourishing diet, active exercise in the form of employment, regularity in habits, such as are enforced at institutions bring about a complete recovery within a period of two or three months.

Concerning prophylaxis it is our belief that primarily these patients have a defective consti-

tution, which leaves them potentially victims of any severe mental or physical stress, that the prevention of these conditions becomes a matter of eugenics, as well as euthenics.

#### DISCUSSION

Dr. M. A. Bahr, Indianapolis, Ind.: I would like to ask Dr. Lorenz if he considers his case a pronounced hallucinosis? Does he consider the Karsakoff psychosis and this psychosis as being one and the same thing, and, if not, how does he differentiate them?

Dr. F. F. Leonard, Jacksonville, Ill.: I find that the more acute the hallucinosis the quicker they recover. The peculiar thing about these patients is that they will admit the alcohol and do not seem to be ashamed of it.

Dr. Lorenz' treatment is practically the same as we give at the Jacksonville Hospital—hydrotherapy and elimination.

I remember a case of acute alcoholism in a patient, with confusion, for over two years. One morning, in about two years, he suddenly asked where he was and how long he had been there. Since then he has made a complete recovery. He was a vendor and followed the side shows from one place to another.

Dr. Harold N. Moyer, 31 N. State St., Chicago: I doubt if the alcohol has different effects in different individuals, that many of these patients are probably liable to a psychosis precipitated by alcohol, and the psychosis is to some extent colored by the alcohol, in whole or in part. A very wise patient of mine one day came to see me and asked about getting his brother into an institution. He said, "Do you remember me? More than twenty years ago you came to see me and I was as crazy as a bed-bug. You said I had typhoid fever and that I was insane, but if they would treat me for the typhoid fever I would get all over it. That is true. I had the typhoid fever. Now I wish to ask you, is my brother crazy? The reason my typhoid fever made me crazy is that that is in my constitution." I said I guessed that was right.

Dr. Lorenz, Mendota, Wis. (closing the discussion): In regard to Dr. Bahr's question concerning the placing of the Karsakoff psychosis, I would say that it was the study of the Karsakoff condition which impressed me with the frequency of peripheral neuritis in other conditions. My view of the Karsakoff psychosis in relation to the other is that it is simply an aggravated condition, with a more severe peripheral neuritis than one observes in the hallucinatory form or in the delusional form. They are all one and the same condition—simply the clinical manifestations depending upon the distribution of the lesion as well as the severity of the lesion, and the Karsakoff conditions would be included with the acute alcohol intoxications.

## ORIGIN (?) OF THE BOAS-OPPLER BACILLUS IN GASTRIC CARCINOMA.\*

ARTHUR E. GAMMAGE, M.D.

CHICAGO.

This paper, as its title would imply, is an interrogative, and is prompted by the desire to bring before you for discussion the origin of the Boas-Oppler bacillus in the stomach contents of cases suffering from gastric carcinoma.

We are rather in the dark concerning the nature of this organism, although it has been under observation since 1895, when it was first described by Oppler. Its association with lactic acid formation and cancer of the stomach was first observed by Boas and later studied more accurately by Oppler, Schmidt, Strauss and others.

The Boas-Oppler bacilli, also designated Fadenbazillen, are unusually long and threadlike, non-motile, anaërobic, and no-spore forming. They stain readily with aniline dyes and are Gram positive. They vary in length from 6 to 8 $\mu$  and are about 1 $\mu$  in thickness. Usually they present end to end in running formations, or they may be seen detached from one another and lying in all directions like small sticks, or they may join each other in a zigzag order. They are rather active lactic acid producers and are not pathogenic to man or even inferior animals. Bassler divides the bacilli into two chief morphologic varieties, the most common being an exceptionally long bacillus, joined end to end, and arranged in long threads and zigzag lines. The second common type he describes as a shorter and thicker organism and as being of much lesser importance than the former from a diagnostic standpoint.

Kauffmann was the first to ascribe to this organism the power of forming lactic acid from various kinds of sugar. He and Schlessinger<sup>2</sup> were the first to succeed in establishing a pure culture of this bacillus upon flesh-peptone-agar with the addition of carcinomatous gastric contents, then also upon beer-wort and glucose-agar. Strauss could also make a pure culture upon flesh-peptone-agar and carcinomatous gastric contents with the addition of a small quantity

\*Read before the North Shore Branch, Chicago Medical Society, October 7, 1913.

1. Boas, *Specielle Diagnostik und Therapie der Magenkrankheiten*. Oppler, *Deutsche Medicinische Wochenschrift*, 1895, 5.

2. Kauffmann and Schlessinger, *Wiener Klinische Rundschau*, 1895, 5.



of a sterilized solution of glucose. It may also be grown on blood serum and usually also on plain agar, but it is very apt to undergo changes in size which may lead one to think that it has been lost or overgrown by other bacilli.

The frequency with which these bacilli are found in the stomach contents of gastric carcinoma have given them a relative diagnostic value in this condition. Butler<sup>3</sup> states: "The Boas-Oppler bacillus is found in from 75 to 85 per cent. of the cases of carcinoma of the stomach." John C. Hemmeter<sup>4</sup> found the bacilli in 52 out of 55 cases, and he has also found them in a case of benign pyloric stenosis and occasionally in cases where HCl. was still present. Stockton stated that it had not been found in other diseases of the stomach."

When the Boas-Oppler bacilli are found in gastric contents, lactic acid is a constant accompaniment and in excessive amount. On the other hand, we may find lactic acid in the stomach contents, but not the Boas-Oppler bacilli, thus indicating that they are active lactic acid producers. Boas<sup>5</sup> says: "The bacilli are capable of coagulating milk, but, above all, of generating lactic acid from various kinds of sugar. They may, therefore, quite correctly be designated as the inciting factor, or at least as one of the inciting factors, of lactic acid formation in the stomach."

Lactic acid formation in the normal stomach during digestion does not take place. When this occurs it is pathologic and is occasioned by conditions where obstruction and fermentation have permitted organic acid formation. Thus, we have in gastric carcinoma ideal conditions for its formation, but we must not forget that in benign pyloric stenosis, and sometimes in high degrees of primary atony, lactic acid may be present in plainly increased amounts. In food there is always a small amount of lactic acid derived either from milk, milk foods, bread, fish or meats (sarcocollactic acid). When lactic acid is found in normal gastric contents, it has been introduced in the food, but the quantity thus ingested is insufficient to react to the usual tests employed for its detection.

Kauffmann<sup>2</sup> found the bacilli in 19 out of 20 cases, and in the one case in which it was absent there was no lactic acid. He declares that

the presence of large numbers of the bacilli in association with pyloric stenosis to be an indication of carcinoma, and their absence, associated with the absence of lactic acid, to be evidence against carcinoma.

Johnson draws attention to those cases in which cancer is grafted on the base of a chronic ulcer. HCl. may be increased or normal throughout the disease, or disappear at a very late period. In these cases lactic acid and the Boas-Oppler bacillus will be absent, or appear only at a very late period when the HCl. has disappeared.

Bassler<sup>6</sup> says, "The Boas-Oppler bacillus is probably of the genus *leptothrix* and is usually met with in large numbers in stomach contents of gastric cancer when motility and chemism (HCl.) of the organ is markedly interfered with. On these occasions they may also be found in the mouth, esophagus or occasionally in the intestines, to which localities they are probably carried from the stomach in the vomitus or by exit through the pylorus. Contrary to other saphrophytes (yeast, *sarcinæ*) which can proliferate in delayed conditions of the stomach, the *long bacilli* require marked stagnation of the organ, and, since the dual agencies of absence of digestive stomach secretion and the high degrees of obstruction are more commonly present in gastric cancer, they are of much significance in the diagnosis of this disease. . . . I have yet to see the stomach contents from a non-malignant case show definitely the presence of the long bacillus. The demonstration of the long bacillus is even a more important diagnostic finding than lactic acid, since only a small amount of gastric contents are necessary for examination."

From the foregoing we can conclude that the Boas-Oppler bacillus is quite constantly present in the stomach contents of gastric carcinoma cases, and although it is occasionally found in other conditions, the presence of the long bacillus, as described by Bassler, is almost pathognomonic of cancer.

In conclusion I am forced to state that, after extended search through the available literature of the original investigators of this organism, as well as through the more recent contributions to this subject, I have failed to find any definite statement as to the origin of the Boas-Oppler bacillus. However, during the preparation of this paper I had constantly in mind three interrogatories. 1. Do the Boas-Oppler bacilli originate in the stomach in gastric cancer cases? 2. Are

3. Butler, *Diagnostics of Internal Medicine*. 1907, p. 655.

4. Tyson, *Practice of Medicine*. 1906, p. 869.

5. Boas, *Dis. of Stomach*. p. 578.

6. Bassler. *Dis. of Stomach*. 1910, p. 215.

they some of the more common gastric bacterial flora which have undergone a morphologic change? 3. Are they ingested with the food as such?

Do the Boas-Oppler bacilli originate in the stomach in cancer cases? This I feel I can answer definitely when I state that they do not and are in no way concerned directly with a cancer being present in the stomach, and only in the way that cancer, being present in the stomach, causes a change in the organ in the way of influencing its secreto-dynamic state so that these bacteria can proliferate. They are not produced directly by the cancer, nor in a broad way can they be taken as diagnostic of cancer being present, although when they are found, especially the long bacilli as described by Bassler, they possess a diagnostic value, although indirect, still very important.

Are they some of the more common gastric bacterial flora which have undergone a morphologic change? We are all familiar with the fact that there are normally present in the gastrointestinal tract various microorganisms, chiefly saprophytic in character. Under certain local or systemic conditions, especially in the upper alimentary canal, we are at times confronted with unexplainable pathologic phenomena. It seems to me quite reasonable to suppose that under the changed local, and by this time, systemic conditions, some of the normal gastric bacterial flora may undergo certain biological changes because of their environment, and be isolated and described as the Boas-Oppler bacilli.

Are they ingested with the food as such? This I believe to be the method of their entrance. In coagulated milk an organism is frequently found that is strikingly similar and believed by some (J. W. Jobling) to be the same. A similar organism is also found on the surface of plants and elsewhere. That this bacillus can be grown artificially, I have pointed out, but the culture medium used must be rendered acid by lactic acid in the amounts of this that is usually found present in the stomach contents of cancer cases. I mention this to prove that the presence of lactic acid makes the medium favorable for the proliferation of this organism, and, as you know, in the late cases of cancer of the stomach the absence of HCl. and the presence of lactic acid are commonly found. Taking, then, stagnation of food

contents, with the generation of organic acids of which lactic acid is one, the heat and moisture of the body, and the constantly taking in of food which is more or less infected with bacteria, the conditions are favorable for the proliferation of the Boas-Oppler bacilli, if introduced. It is probable that the observations of Schlessinger and Kauffmann, and also Strauss, in which carcinomatous gastric contents were added to the medias, that it was only the lactic acid contained in the carcinomatous contents that served to stimulate the growth of these organisms in an artificial way and nothing specifically toxic from the carcinoma itself, because plain commercial lactic acid will serve as well.

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#### DISCUSSION.

Dr. John Dill Robertson: There is little to be added to the exhaustive paper as read by Dr. Gamme.

The consensus of opinion of the authorities quoted by him is that in approximately 15 to 20 per cent. of the cases of gastric carcinoma the Boas-Oppler bacilli cannot be found. They fail to state, however, whether these cases were carcinoma of the pylorus or of some other part of the stomach.

I think that perhaps too much blame is placed upon the chemical effects of the carcinomatous process and not enough upon the mechanical obstruction which it produces.

Undoubtedly, the presence of a carcinomatous growth in the stomach wall limits its secreting area by the amount of mucous-secreting surface obliterated by that growth, but I think the surgeon is more and more taking into consideration as the great factor, the gastrectasis which is produced by the presence of the obstructing mass in the pylorus.

As the organ dilates, the wall becomes thinner and this affects not only the muscularis, but the mucosa as well. As the mucous lining stretches and thins out, the tubular glands, lined with columnar epithelial cells, and the cells lying outside of them, known as hydrochloric acid cells, are obliterated. The amount of normal gastric secretion is therefore limited, not on account of some chemical effect of the cancer juice or toxin, but largely from a mechanical cause.

Therefore, were the 15 or 20 per cent. of the cases in which the Boas-Oppler bacilli were not found cases of carcinoma with or without gastrectasis?

It has been stated that these bacteria have been occasionally found in cases of non-malignant gastrectasis. If this be true, the next question is, was the gastrectasis accompanied with thin gastric walls, or, did the gastric wall thicken as the organ dilated, and in this manner preserve a secreting



mucous membrane adequate to maintain the gastric juice in a more or less normal condition?

It is my opinion that, as the pylorus becomes more and more occluded by the growth, and as the diet becomes more and more liquid, and that usually this liquid is milk, the Boas-Oppler bacilli came, not only on account of the absence of normal gastric juice, but that the organisms were ingested with the food (milk), which was a favorable pabulum for it and which afforded an ideal media for the production of lactic acid, and that therefore this bacillus is not a part of the cancer process, and its presence is only incidental to the absence of normal gastric secretion and to the food ingested.

### A SIMPLE METHOD OF PREPARING CATGUT.\*

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ROCK ISLAND, ILL.

Simplicity is the cry of the age, and the simplest way is usually the best. In this short paper I do not wish to criticise any method of preparing suture material.

We have many excellent methods of preparing catgut today for surgical work, and they are perfect as far as the destruction of germ life is concerned, but many of them are rather difficult to carry out, especially where only a limited amount of gut is used each day, or possibly two or three days each week.

The method I wish to offer is really the use of two different solutions, one for sterilization and one for preservation. The solutions, however, are quickly made and the whole "gig" is up in a "jiffy."

We first obtain clean gut, which has been already prepared for sterilization. It is first twisted or rolled in lengths suitable for suture material and placed in glass stoppered bottles containing full strength Harrington's solution, which is as follows:

Corrosive sublimate.....	grs. 3.5
Hydrochloric acid .....	3ss
Alcohol .....	3n
Water .....	3iiss

This makes eight ounces, which is a convenient quantity for use. Experiments carried on by Harrington proved that this solution "rendered pus from a carbuncle sterile in less than a minute. Tried on the hands of several people, in every instance, two minutes immersion, after

washing, "rendered the hands experimentally sterile. The nails seemed to be the most resistant parts. This combination is more effective than a proportionate amount of any of the substances singly, a fact that the author confesses his inability to explain."

The gut is left in this solution for ten hours. It is then poured off and the sutures washed in Ochsner's solution. Sutures are then transferred to bottles containing Ochsner's solution, which is as follows:

Iodoform .....	1 part
Ether .....	5 parts
Alcohol .....	14 parts

It remains in this solution until needed for operations. The writer has used the Ochsner solution for preserving catgut during the past ten or more years. The gut becomes well impregnated with iodoform and is pliable and nice to work with. It should not be left in iodoform solution much over three months, because the iodine ultimately destroys its tensile strength, but I have used some gut that has remained in the solution as long as twelve months, and it still was good, strong gut. It is possible that a much shorter time in Harrington's solution would be sufficient to effect a perfect sterilization, but this length of time does not seem to injure the gut to any appreciable extent. We found by leaving the gut in Harrington's solution for three months that it was entirely disintegrated, the muriatic acid having digested it completely. Since it requires only "ten seconds' immersion in Harrington's solution to kill anthrax bacilli," there is really no excuse for leaving the gut in solution more than over night. Furthermore, it is positively injured when left in too long. Any method of sterilization, if carried on for thirty or more days, would likely destroy the gut, so the fact that Harrington's solution positively destroys it in about three months is no argument against this method of sterilization. In conclusion, this method of preparing catgut is simple. The Harrington's solution does not injure the gut unless allowed to remain longer than is necessary to effect a perfect sterilization. The Ochsner preserving solution having stood the test of time and preserving the gut perfectly as long as any other iodine preservative, this makes a simple method of preparing catgut.

\*Read at the sixty-third annual meeting of the Illinois State Medical Society at Peoria, May 22, 1913.

# THE PREVENTION OF BLINDNESS CAUSED BY OPHTHALMIA

## NEONATORUM\*

A. L. ADAMS, M. D.

JACKSONVILLE, ILL.

The exact meaning of this eye disease is inflammation of the eyes of the new-born. This does not refer to those babies having a little redness of the lids with a very scant secretion, but rather to those babies who have considerable swelling of the eyelids with a profuse discharge of pus a few days after birth.

The United States census for 1900 shows that there were 64,763 blind persons in this country, of whom 3,767 were in the state of Illinois. This places Illinois fourth among the states as to the number of blind. About 12 per cent of these are under 20 years

sions to these schools last fall, 444 in number, there were blind from ophthalmia neonatorum 99, or 22.29 per cent. While it is difficult to wisely draw conclusions from statistics I would call attention to the record of Massachusetts, where out of 45 new admissions only 4, or 8.8 per cent, were due to this disease. It seems fair to attribute this to a campaign of education among all classes of society. In contrast to this, in western Pennsylvania 30.7 per cent of all the students in their school for the blind are blind as a result of ophthalmia neonatorum and 40 per cent of the new admissions are due to this cause.

Before the days of antiseptics, this disease was a scourge and in maternity hospitals abroad from 19 to 20 per cent of all children born developed this disease. In 1880, Crede of Leipzig presented to the medical profession his epoch making paper an-

December, 1912.

## PROPORTION OF PUPILS BLIND FROM OPHTHALMIA NEONATORUM IN TWENTY-TWO STATE SCHOOLS FOR THE BLIND.

	Total No. of Pupils.	Total No. of Pupils Blind from O. N.	Per Cent.	New Admission, 1912-13.	New Pu- pils Blind from O. N. in 1912-13.	Per Cent.
Arkansas .....	119	18	15.1	19	2	10.5
California .....	81	20*	24.6	8	1	12.5
Colorado .....	42	14	33.3	2	0	0
Connecticut .....	40	9	22.5	3	0	0
Illinois .....	222	71*	32.0	58	11	18.9
Idaho .....	15	2	13.3	5	0	0
Iowa .....	126	34	26.9	20	6	30.0
Kentucky .....	112	27	24.1	14	6	42.8
Maryland .....	100	28	28.0	15	4	26.6
Massachusetts .....	282	82	29.0	45	4	8.8
Missouri .....	115	22	19.1	26	4	15.8
Nehraska .....	52	18	34.6	7	0	0
New Mexico .....	33	11	33.3	8	3	37.5
New York (outside New York City) .....	153	42	27.4	17	8	17.6
North Carolina .....	265	93	35.0	46	14	30.4
Ohio .....	241	75*	31.1	52	15	28.8
Oregon .....	30	8	26.6	8	2	25.0
Pennsylvania .....	207	81	39.1	36	8	22.2
Utah .....	29	8	27.5	5	1	20.0
Washington .....	52	12	23.0	15	5	33.3
Western Pennsylvania .....	130	40	30.7	10	4	40.0
Wisconsin .....	103	40	38.8	25	6	24.0
Totals .....	2,549	755	27.9	444	99	22.29

\*Estimate.

of age, that is, of school age. It is generally estimated that an average of 25 per cent of the total number of blind are so as a result of this disease. This would make an army of almost 20,000 people in the United States and a thousand in the state of Illinois. Consider for a moment! Blind from birth and blind for a life time. Almost entirely preventable. This army is continually receiving new recruits because of the ignorance, carelessness or viciousness of someone.

Carefully prepared statistics show that next to atrophy of the optic nerve this disease is responsible for more cases of blindness than any other eye disease.

Reports from 22 state schools for the blind in the United States, with a total number of students of 2,549, show that 755 or 29 per cent, are blind as a result of ophthalmia neonatorum. Of new admis-

nouncing the cure of ophthalmia neonatorum by the use of a 2 per cent nitrate of silver solution, one drop of which was dropped on the cornea of each eye at the birth of each child. After using this preventive treatment the number of cases developing was reduced from almost 10 per cent to 0.02 per cent. Furthermore, the same treatment carried out where the disease had developed proved very satisfactory, and a large per cent were cured.

Kostling of Halle reports that in 17,767 births with no treatment 9.2 per cent developed the ophthalmia of infancy, while in 24,723 births where the silver treatment was used, infection developed in only 0.65 per cent.

At Sloane Maternity Hospital in New York City among 4,660 births during a period of six years in which Credè's treatment was carried out no cases of ophthalmia developed.

What can we do to prevent this terrible disease from claiming its victims? I think it an educational problem. It is only a question of reaching the people

\*Read before the Illinois Congress of Mothers at the Illinois School for the Blind in Jacksonville, May, 1913, and at the Morgan County Medical Society, June 12, 1913.



and especially the mothers to get results. The physicians are doing what they can to give publicity to the facts. But the very people that need it most do not hear their appeal. In the city of Chicago because of lack of birth registration previous to this year no one knew how many babies were born or how the mothers were attended during confinement. It is believed that in Chicago at least 50 per cent were attended by midwives and in New York City 42 per cent were attended by midwives last year. A large number of these midwives probably never heard of Crede's preventive treatment of ophthalmia neonatorum. Midwives are licensed by the state board of health, but the law provides for no inspection, so after securing their license they are lost sight of.

In Boston is carried on what is known as social service work. In this work convalescent patients and outpatients are investigated in regard to their financial, moral and physical status and aid given in the most effective way. During the year 1909 a nurse was employed whose duty it was to follow up all cases of ophthalmia neonatorum presented to the eye infirmary and report upon them. Of the 116 patients only ten were born in a hospital, 104 had been attended by physicians and two by midwives and later seen by an irregular physician; eighty-seven came out with good eyes, while the eyes of twenty-nine were disabled. Six lost both eyes, sixteen one eye; sixty-two of these children came from good homes.

In Boston an inquiry by social workers developed the fact that out of ninety-seven doctors (with reasonably large obstetrical practice) twenty-seven used a prophylactic, forty seldom did so and twenty-eight never used any preventive treatment for this disease.

To understand this disease it seems necessary for me to speak plainly, as to a medical audience. This disease is caused by a germ developed in the vaginal canal of the mother and transferred to the eyes of the baby during its birth. This germ is generally the gonococcus and the presence of the disease is usually considered as proof positive of immorality of one or both parents. Study of the disease and statistics go to prove that in two-thirds of all cases examined the gonococcus is found by microscopic examination. In the other third, however, the pneumococcus, staphylococcus and other germs are present. The severe cases are almost invariably caused by the gonorrheal infection.

There are at least two ways of approaching the problem: 1. That our boys and girls should be educated at an early period of their lives that they must live clean, moral lives throughout. There should be no double standard of morals. Your daughters should have husbands and your sons have wives that are not only free from venereal disease, but demand should be that they should never have had it. The lingering effects of the "sowing of wild oats" by young men and boys is the cause of many of these blind babies and oftentimes invalid mothers. This object to attain may be an ideal, but there is no

reason why we should not strive for it.

2. That measures should be taken at birth to prevent the development of inflammation of the eyes. Microscopic examinations of the vaginal secretions of the mother before the birth of the child should be made; if germs are found likely to cause eye disease, antiseptic douches should be used to render the vaginal canal aseptic.

Medical measures will accomplish much, but I think a better understanding of the causes and nature of this disease will make treatment less often necessary. I know of no organization better able to grapple with this problem than the parent-teacher associations. They are able to reach the mothers who do not read the papers and magazines and may seldom employ physicians. A few words at the right time would make them ready for and willing to have the use of the preventive treatment, i. e. (the silver nitrate drops for the eyes, either five or ten grains to the ounce) and instead of objecting they would expect that treatment. All regularly educated physicians are taught in the medical schools how to care for these cases. Where there is any doubt about the matter time should not be lost, but someone known to be familiar with the best methods of treatment should see the patient as early as possible. Ophthalmic surgeons have been active in securing legislation requiring notification if this disease is present. The following states have laws upon this subject: Connecticut, Idaho, Maryland, Massachusetts, Michigan, Missouri, Ohio, Pennsylvania, Rhode Island, Texas, Wisconsin and Illinois.

In 1895 an act for the prevention of blindness was passed by Illinois legislature.

"Section 510. Be it enacted by the people of the state of Illinois represented in the general assembly.

"Should any midwife or nurse having charge of an infant in this state notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth it should be the duty of such midwife or nurse having charge of such infant to report the fact in writing within six hours to the health officer or some legally qualified practitioner of medicine of the city, town or district in which the parents of the infant resides.

"Section 511. Penalty. Any failure to comply with this act shall be punishable by a fine not to exceed \$100 or imprisonment, not to exceed six months, or both."

"Under the direction of a committee on ophthalmia neonatorum of the American Medical Association there is a strong and growing movement to fight the evil by concerted action of the various medical organizations and state boards of health. This committee in its report to the American Medical Association urged the necessity of more careful statistics as to the prevalence of the disease and a wider knowledge of its dangers. It advocates careful registration of births and midwives, education of midwives, mothers and the medical profession on the subject. It also advocates the preparation and distribution by health

boards of the remedy chosen as a preventive, with explicit directions for its use; and that state boards of health should be empowered to enforce laws enacted for the prevention of this disease, and even to make such rules, regulations and ordinances as they deem expedient to accomplish this object."

The views of this committee have been endorsed by various medical organizations, the American Health Association and the National Congress of Mothers. The campaign of education is now started in various states and they are doing especially good work in Massachusetts and New York. The New York Association for the Blind, which receives substantial support from the Russell Sage Foundation, is accomplishing results by means of its publications, public speaking and photograph exhibits. One of their publications entitled "Directions to Mothers, Midwives and Nurses for the Prevention of New-Born Babies' Sore Eyes," is a small tract, printed in five languages—English, Italian, German, Polish and Yiddish—and distributed by thousands where it is likely to do great good.

There is now formed a lay organization in this state for the prevention of blindness or conservation of vision. This association co-operates with the American Association for the Conservation of Vision. The purpose of this organization is:

1. To collect and standardize existing information on all subjects pertaining to the use and care of the eyes.
2. To secure the investigation of subjects on which present knowledge is incomplete or contradictory.
3. To promulgate knowledge relating to the conservation of vision.

There are departments of legislation, publicity, statistics and information, industrial, educational and department of defects and diseases of the eye.

This society deserves and requests your co-operation and assistance in their endeavor to lessen the unnecessary and often tragic blindness that seems to be always with us.

## THE SAFETY BLADE IN SURGERY.

From time to time during the past year there have appeared articles by certain public-spirited gentlemen exploiting the use of various devices with which the blade of a common safety razor may be converted into a scalpel.

While uncertain as to the advantage possessed by this cumbersome weapon over the finished product of the modern manufacturer of surgical instruments, we are an advocate of "Safety First," and fully realizing that great havoc may (and perhaps has been) done with the scalpel, we are for the blade.

The havoc wrought by the old time razor made the evolution of the "Safety" imperative. Since we are now awakening to the exigencies of the situation, may it not be that the profession will ultimately conceive the idea of a "Safety Scalpel." Speed the time.—Cheerful Contributor in *The Bulletin of the Vermilion County Medical Society*.

## THE SIAMESE TWINS.

When the late P. T. Barnum was exhibiting his famous Siamese twins, they were, as is well remembered, a wonderful sensation.

A certain divine, accompanied by his daughter, was much interested, and their curiosity was unbounded. The young lady asked where the twins were born. Mr. Barnum told them that they were born in Siam.

"And are they brothers?" said the clerical gentleman.

"Oh, yes," said the world's greatest press agent.

"Well, well!" said the visitor. "Think of that, Mary! How good and kind a gracious Providence to allow them to be brothers; and not to have linked a pair of strangers together for life!"

And as the twain walked away, Mr. Barnum began to wonder if by any chance he had possibly overlooked any bets.

## IN A BAD WAY.

They were talking automobile reminiscences, and Congressman Jacob Johnson of Utah recalled the experience of Smith along a country road.

The inexplicable thing had happened some ten miles from a garage, and Smith was mauling over the machine with a monkey wrench when a farmer came along.

For awhile Hiram stood in silence watching the efforts of the autoist, and then human nature asserted itself and he broke into conversation.

"Some car ye've got there, pard," he remarked admiringly. "What power is it?"

"Forty horsepower," answered Smith, continuing to plug away with the monkey wrench.

"Forty hoss, eh?" returned Hiram, still working his eyes. "What seems ter be the trouble with it?"

"Well, as near as I can figure it out," answered Smith, with a sort of cross between a sigh and a cuss, "about thirty-nine of the horses are dead."—*Philadelphia Telegraph*.

## MODERN SURGERY.

"Take Child from Mother with Pistol."—*Chicago Journal*.

Great Caesar!

—B. L. T. in *Chicago Tribune*



# ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society,  
under the direction of the Publication Committee of the  
Council.

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MARCH, 1914.

## Editorials

### RELATION OF THE PHYSICIAN TO THE COMMUNITY.\*

#### THE MINOR PREMISE.

Of all the occupations of men, there is but one—that of medicine—in which the training and experience of its exponents is concerned with the study of man himself. Medicine considers man in relation to himself, his neighbor, his state, the world and all things therein contained. There is no fact so trivial, no phenomenon so vast or obscure, but medicine gives thoughtful attention to its possible relation to man's well-being.

The study and practice of Medicine has come to be something more than the application of a variety of substances for the relief and cure of disease. The fog of mysticism in which it was imbedded and which entangled it with religion is beginning to lift. Though the fact is as yet unrecognized outside of a few dreamers, it has become in reality the "Study of Man and the Universe," its purpose the intelligent application of knowledge to the direction of human efforts for the welfare of man, individually and collectively. One of the marvels of the last fifty years is the ability of the medical profes-

sion to adapt and adopt for its own purposes information from all sources. Medicine is tending to become the application of science, and the physician the leading scientist. But Medicine differs from other forms of useful effort in one fundamental element. Whereas, other occupations are concerned with the study of men's needs and desires, and have as their purpose the satisfaction of such needs and desires, Medicine studies Man, himself, and its only consideration is the relation of the microcosm and macrocosm to Man, himself. In the final human judgment of values, the relation to Man, himself, of thing or fact or fancy must be the criterion.

That the physician should be the arbiter of all human activities seems to be the only logical conclusion left to draw. The physician teaches the sanitary engineer where to build his drain, and why; the constructing engineer how to build his house so that it may be for Man's good and not for his harm; the farmer how he can furnish to the city food that is safe; the city how it is wallowing in its own mire and suffocating in its own poisonous breath; the lawyer, that without justice, law is a bitter farce; that justice is essential to human progress; and the merchant, the manufacturer, the transporter, the employer, the laborer that the "rule of reason" and of justice must guide their conduct, or they and their kind will suffer more than benefit from their activities.

And all the "ologies" he marshals in array and each he interrogates, saying: "What bring *YOU* that I may use to benefit mankind? Whatever things you bring, until I can apply them, have interest, but not value."

#### THE CONCLUSION.

If, then, government is to exist among men to represent community effort for the betterment of our kind, the dominant intelligence and directing factor in such government must be that group whose attention has been engaged in the limitless study of man, himself, in all his relationships. It is our work, and it constitutes our opportunity. It is our logical part in the life of the community to point the way, to guide its footsteps, and, hoveringly, to lead on to the attainment of better things.

Government will continue to exist among men, and statistics will continue to show that (apparently at least) Government has been a suc-

\*A continuation.

cess. That is to say, the figures show that the struggle for existence has been greatly ameliorated through organized effort; that the "average" wealth of the individual has increased; that famine has been eliminated; that the "average" life has been lengthened; and transportation and communication made possible beyond the dreams of savagery. But statistics do not show that under our system the few exploit the many; nor that among unskilled laborers existence is maintained by a struggle fiercer and more heart-rending than ever took place in the wilds of the jungle, nor that ignorance, squalor, filth and vice, when they appear in these present times, are due to "man's inhumanity to man"; nor that simple justice established between man and man would abolish poverty and rid the world of at least three-fourths of its present disease. When earnest and honest effort is made to establish thorough-going prevention of disease, it will be found that the same methods and measures that will prove effective for that purpose will at the same time establish justice among men, so intimately is human welfare based on health, related to justice among men. To prevent disease is a task invented by the physician, out of his sympathy for the suffering and sorrow that passes through his hands. Its value is beginning to be recognized by the community and is being taken over by the community. In this field lies the chief future value of medical activities, and this field can be filled by no community group other than the physician. This is distinctly and peculiarly our work. If in the course of doing this work we shall find that by the same means we have established among men a fairer and juster mode of life, we shall then have done what no other community group is fitted to do.

In order that any particular group in the community shall become "the dominant intelligence and directing factor" in that community or government, it does not follow that the members of that group should be recognized as officials, nor is it necessary that the group should receive official sanction. That physicians should lead and direct all human activities, does not mean that doctors should hold office. Whether they do or do not is of no consequence. What is necessary is that the medical profession shall compel the community to recognize its integrity,

its singleness of purpose, its unselfish motive, its devotion to the common welfare, and its untiring, unceasing efforts to increase its store of knowledge and develop skill until an enlightened community shall constantly seek and heed medical advice in community matters.

As a specific illustration of the attitude of the non-medical mind toward all questions of supposed public importance, consider the present status of the subject "Eugenics." The subject is new—in the sense that it has reached the popular consciousness within the last four or five years. The term may be said to be euphonious, and the idea it represents, in imagination, rises to the zenith of perfection and extends to the horizon its latitude of potential. The press is filled with it. The dailies, the weeklies, the magazines, the quarterlies, the reviews, discuss it with earnestness and enthusiasm. It has caught the popular fancy to such a degree that future generations are likely to consider its present phase a manifestation of hysteria and classify it with the "Salem witchcraft" and the "Mississippi Bubble." No article is complete without mention of it; no author is up-to-date who does not refer to it; and it is "stuck" in here at the last moment before going to press. The establishment of an "Eugenical" program has ardent advocates and equally ardent antagonists, and the arguments they present so curiously intermingle that to analyze them and logically arrange them is an impossible proposition. Some say it should be done because thereby the superman could be produced; others that the maintenance of the superman would require virtual slavery of the mass, that the superman differs from the hog only in intelligence, and from the sponge only in locomotive ability. Some say that such a plan would destroy the family and is therefore bad; others that it is good for the same reason. Some say that we could breed a race of physically perfect people; others that it could be only at the expense of mentality; some that we could produce a race of men and women mentally "superior," others that such people could not maintain themselves, and do not propagate with sufficient freedom. Elimination of defectives and undesirables seems to be advocated by most, but there are those who claim that the community has no right to interfere with mating, yet even these assert the right of the community to protect itself. Across



the confusion of words comes the clear, steady tone of the thinking physician, saying: "Wait; let us see first if we can determine where lies happiness for man. Let us see whether or not we can decide what it is we wish to do. Let us study all phases of this question in a strictly scientific manner, and meanwhile let us try to educate the community to use its common sense for the common betterment." And when this problem is solved, if it ever is, it must be by the physician. Had the physician been consulted in its construction, the present system of education would not have been fundamentally wrong.

(To be continued.)

### GET A NEW MEMBER.

How much time or service does the average doctor give to the county or state medical society?

Notwithstanding the prediction that the membership of the State Society would decrease this year, it has increased, and it is hoped by the time of the annual meeting there will be still more gain. This is encouraging, but the fact remains that too many eligible physicians are not members of the State Society nor of the A. M. A. There is no good reason why every eligible physician residing in the state is not a member of both these societies.

The one real reason for this condition is the fact that the average physician is willing to pay his society dues for the year, and thinks he has done his full duty by the society. He is not willing to give the society any of his time.

It is a very small matter for most members to solicit and obtain an application for membership in the society from a neighboring physician, but instead of making that effort, the average member leaves this to the officers of the society, and wonders why there are so many eligible physicians who are not members. The officers of the societies usually are not acquainted with your neighbor, and your neighbor, when approached by an entire stranger, does not fill out an application so willingly.

This disinterestedness is mostly thoughtlessness or carelessness, but the fact remains that it is not fair to your medical societies, nor is it fair to the officers of the society, and most unfair to the member himself. After a while it will reach your pocketbook.

A medical society can never reach the maximum of efficiency until a complete organization exists. Legislators, when asked to support a medical bill, repeatedly refer to the fact that the medical profession is not organized.

We must remember, too, that each year the medico-legal expense is larger. There are many times more cases suing for malpractice now than when the service was inaugurated. This all means added expense, but, most of all, it means that we are not maintaining the best means of defense we have, namely, a complete organization. When every eligible physician is a member of a live society, there will be fewer malpractice cases.

It is up to you, doctor, to help increase the efficiency of your medical societies—county, state and national—and if you will take but a small amount of time, your societies will soon know the result of your efforts.

We can hardly expect to become effective, as a society, in legislative work until the entire profession is organized. Neither can we become most effective with the state executive nor with the appointed medical boards of the state until the profession is completely organized. The governor of a state is elected, and the medical boards are appointed to serve the whole people. If the whole medical profession wants a certain legislation, the probability is it would get it; but if half the profession wants that law, and the other half are inactive, the probability is the law will not be enacted. The individual member should work for the society, and he should see that his neighbor is a member.

We think your medical society is giving you more for your money than any other money you spend, and in return you should give your society some thought and some effort, and one of the ways you have of helping your society is by securing an application for membership from that doctor who is not a member.

### ACID-INTOXICATION.

Acid-Intoxication and acidosis are terms that are applied to conditions of acidity observed in many patients under varying conditions. In childhood, particularly, this symptom complex is met with in several distinct clinical entities.

In the condition described in the older textbooks as cyclic vomiting, recurrent vomiting, ner-

vous vomiting, there is usually described this form. Again in the digestive disturbances of early life the condition is very frequently seen, especially where the sugars or fat are at fault. At this season of the year, when epidemics of sore throat prevail, acidosis is seen in a very considerable proportion of such cases.

The relationship between tonsillitis and rheumatism has long been recognized by many medical writers. It has remained for a few men, such as W. Gilman Thompson in this country, and Dr. Goodall in England, to point out a relationship between rheumatism and diabetes.

While it is yet too early to show that in the throat cases which develop this syndrome, there is any preponderance of the diplococcus of rheumatism (Payne and Poynton) the evidence is in favor of such conclusion.

In these tonsillitis cases, of which there has been such a very large number during the past few weeks, we are face to face with typical rheumatism as found in early life, and also a condition simulating diabetes in many of its aspects. In all of these cases acetone and diacetic acid are found in the urine, and a strong odor of acetone is given off in the breath.

The cases are undoubtedly infectious, and all those who come in close contact with the patient are affected usually, regardless of the age of the individual.

The throat manifestations apparently bear no direct relationship to the amount of acidosis nor to the length of the attack. Generally speaking, those patients giving a history of chronic digestive disorders or mal-nutrition are the more profoundly intoxicated.

The acid intoxication usually manifests itself about the third or fourth day of the disease. The patients are apathetic, anorexia is marked, nausea is practically always complained of, and in a large percentage of the cases recurrent vomiting is noted. This physiologic vomiting persists after the stomach is emptied, and even the smallest quantity of water is returned. The temperature range is from 101 to 103. The pulse is rather slow as compared to the usual temperature-pulse ratio. The bowels are constipated and the abdomen usually retracted; this with the increasing apathy may stimulate meningitis to a considerable extent. The apathy progresses to sopor, and in patients going on to a fatal termina-

tion, coma occurs twelve to twenty-four hours before death.

As the acidosis progresses, prostration becomes more and more marked; there is rapid loss of weight, and an early disturbance of respiration, with marked symptoms of air hunger, as manifested by the play of the alae nasi.

The use of bicarbonate and citrate of soda in large doses is indicated. The use of salicylates should be carefully guarded as acidosis is the symptom of salicylic acid poisoning. Other therapeutic measures may be needed in individual cases. Flushing out the bowels by high colonic enemas has proven of value in individual cases.

The diet that has proven best suited to this group of cases is skimmed milk or buttermilk.

#### PASTEURIZATION OF MILK.

The question of the advantages and disadvantages of the pasteurization of cow's milk in relation to its value as a food for infants has been discussed from both the clinical and laboratory points of view over and over again. In the main the clinicians have maintained that a clean fresh raw cow's milk was to be preferred while the laboratory worker with equal zeal has upheld the theory of pasteurization.

In a paper presented before the Academy of Medicine, Nov. 13, 1913, entitled the "Bacteriological Diagnosis and Treatment of Alimentary Disease in the Infant and Child," Dr. Ralph Vincent, Senior Physician and Director of the Research Laboratory, the Infant's Hospital, London, England, reported the results of his investigations both from the clinical and laboratory findings.

Few men are so fortunately situated as Dr. Vincent, having at command a thoroughly equipped laboratory in conjunction with an abundance of clinical material furnished by the Infant's Hospital.

Dr. Vincent classifies the bacteria commonly found in milk according to the conditions determining their growth in and their action on milk.

1. *Bacteria producing lactic acid but not producing gas.* This group is represented by the *Streptococcus lacticus* and the *Bacillus lacticus*.

The *Streptococcus lacticus* is the typical organism growing in pure milk at 38 C. At a later stage when the acidity has become too great



for the streptococcus, the *Bacillus lacticus* appears, for this organism is exceptionally tolerant of acid.

2. *Bacteria producing lactic acid, carbon dioxide and alcohol.* This group embraces the whole of the colon organisms and includes the *Bacillus acidi lactici* (Hueppe) *Bacterium acidi lactici* (Esten) *Bacillus lactis aërogenes* (Escherich) and the *Bacillus coli communis*. When pure raw milk is incubated the growth of the organisms belonging to this group is inhibited by the growth of the organisms belonging to the first group. When milk is grossly contaminated by colon organisms these may acquire dominance, and in such cases the curdled milk shows evidence of gas production.

3. *Bacteria growing in "pasteurized" milk,* that is, milk that has been subjected to a temperature between 65 C and 100 C. The *Bacillus putrificus* and the *Bacillus aerogenes capsulatus* are examples of this group and their products are of a highly irritant and dangerous character.

4. *Bacteria growing in milk after it has been raised to 100 C,* owing to the fact that their spores are not destroyed. These organisms are found in milk that has been boiled or "sterilized" and in condensed milk. This group embraces a large number of organisms, the chief representatives being the *Bacillus subtilis*, the *Bacillus mesentericus* and the *Bacillus mesentericus vulgatus*. When they develop in the intestine extremely powerful poisons of an alkaloidal character are created and the absorption of these poisons produces profound coma and death.

These organisms are quite unable to grow in raw milk, for their growth is entirely prevented by the acid forming bacteria. The *bacillus proteus vulgaris* is a powerful putrefactive organism, but it does not belong to this group, as it does not possess spores.

Recently "pasteurization" has been advocated at an exceptionally low temperature, 60 C. (140° F.), for twenty minutes, and this Dr. Vincent carried out in a series of investigations to determine the effects of "pasteurization" at this temperature. He summarizes his results thus:

The lactic organisms were not destroyed, as they finally appeared after long incubation in all cases. But they were so greatly injured that in the great majority of the experiments they failed to appear at all in twenty-four hours, while the

effect of their being unable to develop is shown by the organisms which actually developed during this period.

These included the *Bacillus megatherium*, the *Bacillus subtilis*, the *Bacillus mesentericus* and the *Bacillus aerogenes capsulatus*. The uncertain effect of the "pasteurization" at this temperature is shown by this list, for it is generally possible to specify the organism that will appear, given the temperature and the period of exposure. The uncertainty is in this instance not surprising, as the employment of such low temperature is in reality an endeavor to obtain the impossible—that is, a method of pasteurization which shall certainly destroy pathogenic organisms without destroying the lactic organisms.

The grave alteration of the milk is shown in the development of acidity and the time of curdling. Fresh milk always curdles at 38 C. within twenty-four hours. It generally curdles in about eighteen hours, the acidity being about 60 to 70 degrees. In the pasteurized milk the average time of curdling was fifty-five hours, while the average acidity at the end of twenty-four hours incubation was 20 degrees, which is only very slightly above the acidity of milk at the time of milking. (Pasteurized milk immediately after pasteurization almost invariably shows a slightly higher acidity than the raw milk immediately before it is heated.)

In pure milk the *Streptococcus lacticus* is the predominant organism. If the milk is contaminated the growth of the streptococcus is interfered with, and colon organisms develop at an early stage with the result that the curd is pitted, while if the gas production is excessive the curd may be brought to the surface of the milk.

Milk is always acid at the time of milking. The initial acidity varies from 15 to 18 degrees. The development of acidity is due entirely to the action of micro-organisms and consequently the temperature at which milk is kept and the time of exposure are the chief factors determining the rate at which acid is produced. The production of acid does not proceed regularly. A remarkable feature connected with the development of the streptococcus is that there are two stages in its growth: 1. A stage lasting for from eight to twelve hours in which the production of acid is very slight; 2, a second stage of about twelve hours in which there is rapid production of acid.

With regard to the term "putrefaction" it is well to point out that the term is used in the present connection as a synonym for proteolysis. The production of evil-smelling products is an incident to putrefaction; some organisms give rise to products with most unpleasant odor, others, notably the bacillus mesentericus vulgaris, grow in profusion without creating any change that can be detected by sight, taste or smell. Indeed it is one of the dangers of "pasteurized" milk that the milk may be loaded with organisms of this character without there being any obvious change to suggest that the milk is not wholesome.

## Correspondence

### WHY NOT TELL THE TRUTH?

*To the Editor:* The following open letter to the trustees of the American Medical Association was sent to the editor and general manager Nov. 25, 1913. The editor wrote me that he would send copies to each trustee with a recommendation that it be published in the *Journal of the A. M. A.* A few hours later I received another letter from him, in which he said he "had changed his mind" and would not put in any recommendation to publish. No mention has been made of the matter by the editor or the trustees since that time. Therefore, believing that he does not intend to publish my letter to the trustees, I ask you to publish it for the benefit of the members of the Illinois State Medical Society.

Yours fraternally,

HENRY F. LEWIS.

#### AN OPEN LETTER TO THE TRUSTEES OF THE AMERICAN MEDICAL ASSOCIATION.

*Gentlemen:* As a member and well wisher of the Association, I note with pleasure that the trustees have at last made some sort of answer to the criticisms which have been made, and honestly made, of the management of the Association for some years past. An increasing number of the friends of the A. M. A. have been asking each other why the authorities have so long ignored the insurgent movement in the Association and the complaints among so many of its members regarding its administration. They

naturally have supposed that the Association did not belong solely to any executive officer, nor indeed to the trustees, but that every member had equal interest in it and was entitled to some voice in its councils. The *Journal A. M. A.* has never given a chance to members to voice any complaints nor to criticize ever so mildly the actions of those in power. It is gratifying to find that an answer to at least some of these criticisms, which have perforce been published elsewhere, has finally appeared in the *Journal*. However, friends of the A. M. A. will be pained to observe that this answer, published on page 1920 of the *Journal* of the American Medical Association for Nov. 22, 1913, over the signatures of the chairman and secretary of the trustees, falls far short of being a fair-minded statement of facts which members ought to know.

In this statement by the trustees the impression is given that they are hiding behind some very flimsy technicalities. I will ask you, gentlemen, why you do not publish the text of the decision of the Appellate Court of Illinois, or at least such a fair abstract as appeared in ILLINOIS MEDICAL JOURNAL for November, 1913, page 301? Is it possible that, looking down from your inaccessible intellectual heights, you view the ordinary member of the Association and the reader of *our Journal* as incompetent to comprehend the text of this legal decision at first hand?

Evidently you were not advised by your eminent and learned counsel when you state that Dr. Lydston and his attorney "endeavored to induce the state's attorney of Cook County to file a petition for a *mandamus* against the trustees of the Association, claiming that they were illegally elected." The facts are that the plaintiff's attorney requested the former state's attorney, J. E. W. Wayman, to serve writs of *quo warranto* upon the trustees, demanding that they should show whether their operations were legal. This the state's attorney refused to do, and the subsequent proceedings were to get the courts to *mandamus* him to do his duty in the premises.

The text of the decision, which you have failed to publish, shows distinctly that the Appellate Court does go into the merits of the case as affecting the American Medical Association.



For instance, the court says, in relation to holding meetings of the Association outside the state of Illinois: "We think that the words, 'at such places as may be provided by the by-laws,' must be construed to refer to places *within the state*." "Here it does not clearly appear from the language used in Section 32 or elsewhere in the corporation act that corporations not for profit are given the power claimed in this case to hold corporate meetings outside of the state of Illinois, nor does it clearly appear that the power is anywhere given to take from the members, by means of by-laws, the right to vote 'in person or by proxy' for trustees, and vest that right in delegates selected by its constituent associations. We, therefore, must conclude that the powers claimed have never been granted to and are not possessed by the association in question." If such a decision (and the quotations are only a small part of it) "does not in any way affect the American Medical Association," what would affect it?

I would like to ask you, gentlemen, a few more questions. Is there not, regardless of the merits of the issue, serious question as to the legality of the corporate acts of the Association, in spite of the opinion of your eminent legal counsel?

What about the illegal votes of thousands of non-members (really an illegal majority vote)? How does this affect your legality?

Who has paid the expenses of the extra counsel who have tried the case in question in the various courts during the last few years? Has the state's attorney of Cook County personally or the County Treasurer officially paid the bills? Has the A. M. A. paid the attorney's fees and court costs of this prolonged legal struggle? Who will pay the expenses of the appeal to the Supreme Court? Who are the attorneys who are fighting for the trustees? Are they employees of the state's attorney's office? It would seem that the members of the Association ought to know.

Why has there been so strong a fight merely to prevent a hearing and decision on legal questions which vitally involve the A. M. A.? Why have the trustees not welcomed the first opportunity of settling such questions? It is the pettiest kind of quibbling to state that the ques-

tion involves only the state's attorney of Cook County and not the Association. The state's attorney probably does not care two cents about the case and is really not making this legal fight. Why has not the Association long ago brought this question to settlement, if the trustees are so certain that Lydston is wrong? Why did not the trustees submit to the demand for *quo warranto* and show cause why their proceedings were perfectly legal, if they were so certainly sure?

The *Journal of the American Medical Editors' Association* for November, 1913, publishes the complete text of the decision, with editorial comments thereon. Is the *Journal* of the American Medical Association less interested than the independent journals?

Why not take the members of the American Medical Association into your confidence, officers of the A. M. A.?

(Signed) HENRY F. LEWIS.

Chicago, Nov. 25, 1913.

#### TWELFTH INTERNATIONAL CONGRESS OF OPHTHALMOLOGY.

St. Louis, Mo.

*To the Editor:* Will you kindly see that the enclosed notice of the twelfth International Congress of Ophthalmology to be held in St. Petersburg from the 28th of July to August 2, 1914, of our calendar (10th of August to the 15th of August, Russian calendar) will reach those members of your State Association who may be interested.

Some of the trans-Atlantic steamship companies offer special rates for this occasion. It is to be hoped that the attendance from America will be greater than usual. These circulars were left in my hands some time ago for distribution.

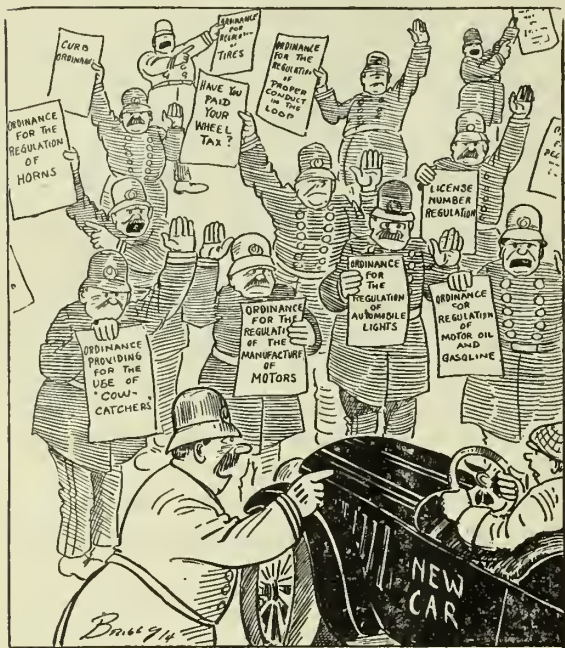
Yours truly,

W. H. LUEDDE,

Member Corresponding Committee.

The circular referred to announces that authors should express their views in French, though all European languages will be official. Physicians intending to participate should communicate with the corresponding members: Drs. A. Knapp, New York; Edmond Blaaw, Buffalo; G. E. de Schweinitz, Philadelphia; Adolph Barkau, San Francisco; W. H. Luedde, St. Louis.

## ALL DRESSED UP AND NO PLACE TO GO.



—Courtesy Chicago Daily Tribune.

### Auto Sparks and Kicks

#### NON-FREEZING SOLUTIONS FOR USE IN THE COOLING SYSTEM DURING THE WINTER.

Unless it is absolutely certain that the car will be housed in a heated room or building at all times that the motor is stopped during freezing weather, it is necessary that some ingredient be added to the water of the cooling system in order to prevent it from freezing and consequently burst the radiator, cylinder, water jacket or some other portion of the cooling system. Table I gives the freezing points of the several solutions generally used in different proportions.

The ingredients named in this table are the most generally used. There is a number of other solutions which will lower the freezing point of water, but they are either too expensive, injurious to the parts of the cooling system, will not flow properly or do not take on and lose heat rapidly enough.

The following paragraphs give briefly the advantages and disadvantages of each of the substances generally used.

TABLE I.

Material	Amount in fluid ounces to be added to one gallon of water									
	10	20	30	40	50	60	70	80	90	100
	Freezing Point									
Glycerine.....	29	25	21	17	13	9	6	0	-4	-8
Ethyl or Grain Alcohol (denatured)	27	22	18	13	8	4	0	-6	-10	-14
Methyl or Wood Alcohol.....	25	19	12	5	-5	-18	..	..	..	..
Calcium Chloride..... (ounces)	27	21	15	5	-10	-38	..	..	..	..
Half Wood Alcohol Half Glycerine.....	25	15	-13	..	..	..	..	..	..	..

#### ETHYL OR GRAIN ALCOHOL (DENATURED)

This alcohol is not quite so volatile as wood alcohol, that is, it does not evaporate so easily or quickly, hence it does not have to be replaced as often. On the other hand, for the same percentage solution, it does not lower the freezing point as much as wood alcohol. On the whole, however, if the freezing point is not to be so low, it is preferable to wood alcohol.

#### Table of Specific Gravities of Alcoholic Solutions.

TABLE II.

Sp. Gr.....	1.00	.99	.98	.97	.96	.95	.94	.93	.92
Pet Cent Denatured Alcohol.....	0	7½	15½	23	30	38	46	53	60
Per Cent Wood Alcohol.....	0	8	17	25	33	41½	49	57½	65

#### METHYL OR WOOD ALCOHOL

Wood alcohol produces a lower temperature, for the quantity added to the water, than any of the substances, except calcium chloride. Great care should be taken, however, to test the strength of the solution, as wood alcohol has a low boiling point, and evaporates rapidly. The sense of smell should not be relied on, as even a very weak solution will, especially when warm, give off a very strong odor.

If alcohol solutions are used, either wood or denatured, a hydrometer should be used daily during cold weather to test the strength. A per-



centage table with specific gravities usually accompanies the hydrometer. Table III gives the percentages of the two alcoholic solutions with corresponding specific gravities.

#### ALCOHOL AND GLYCERINE.

Either of the alcohols may be used in conjunction with glycerine and this probably makes the best anti-freezing solution of any. Table I shows only the freezing points of the wood alcohol-glycerine solutions. The denatured alcohol-glycerine freezing points are considerably higher. It should be noted about this solution, however, that there is no practical method to telling how much alcohol the solution contains, as a hydrometer is useless unless calibrated for a particular percentage of glycerine. The only thing to do therefore is to add small quantities of alcohol each day and get an approximate solution. The glycerine does not evaporate, hence does not have to be replaced.

#### GLYCERINE.

Glycerine, when used by itself, must be pretty strong in order to produce the desired result. When it is strong enough for this purpose, it is also strong enough to attack the rubber in the hose connections and for this reason it is far preferable to use the alcohol with it and reduce the proportion of glycerine. In using a glycerine solution, it is necessary to thoroughly cleanse the radiator and water jackets of any residue of crystals from calcium solutions previously used, as this residue will thicken and cloud the glycerine solution. A very strong glycerine solution becomes gelatinous and will not circulate freely, especially in thermo-syphon systems, where its use is not recommended. One advantage about a glycerine solution is that when it does freeze, it does not freeze solid, but becomes a sort of spongy mush which does not do much damage.

#### CALCIUM CHLORIDE.

Calcium chloride is a very effective cooling agent, but unless the chemically pure article is used there is danger of corrosion of the metal with which it comes in contact. A convenient way to prepare the solution is to first make a "saturated solution" of the calcium chloride and water, that is, mix with a quantity of water warmed to 60 degrees F. all the calcium chloride the water will completely dissolve, and use equal parts of this saturated solution and pure water

in the cooling system of the motor. If chemically pure calcium chloride is used no trouble will result. Chloride of lime ( $\text{CaOCl}_2$ ) should be avoided. Crude calcium chloride retails at about 8 cents or 10 cents a pound, while the chemically pure article is worth about 25 cents in small quantities. If the chemically pure article cannot be obtained, the commercial substance can be made fit for use by neutralizing the acid. This may be done by adding ammonia or soda ash gradually to the solution until the blue litmus paper no longer turns red when moistened with the solution.

#### SALT.

Sodium chloride or ordinary salt may be used as an anti-freezing agent. A saturated solution—that is, a solution in which the water has dissolved all the salt it can—will freeze at about 0 degree. The disadvantages about a saline or salt solution is that it has an electrolytic action on the brass and iron parts of the cooling system.—*Trade Journal.*

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## Society Proceedings

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Secretaries are requested to have their proceedings typewritten, double spaced, and in the hands of the Managing Editor before the 20th of the month to insure early publication. The place and date of meetings should always be stated.

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#### ADAMS COUNTY.

*Regular Meeting, Jan. 12, 1914.*

Adams County Medical Society met in regular monthly session on Monday, January 12th, 1914, with the newly elected president, Dr. Kirk Shango, in the chair.

After the reading of the minutes of the last meeting, a committee consisting of Drs. Pittman, C. R. Bates and W. S. Knapheide, was appointed to draw up resolutions on the death of Dr. L. R. Whray of Golden. Dr. Whray was one of the oldest practitioners in the state, and had been a member of this society since 1906. It was moved and seconded that a memorial page be set aside in our records and a copy of the resolutions sent to the family.

A discussion followed regarding the change of our meeting day, and as it was impossible to decide on a day, it was voted that the secretary secure post cards and mail them to the members with the February Bulletin.

It was moved and seconded that the program committee set aside a certain day and announce that day as the one on which the business end of medical

practice will be discussed, after which the society adjourned for luncheon at Hotel Quincy.

In the afternoon session a vote was taken on application of Dr. G. F. Gossard of Loraine, who was elected to membership.

The scientific program was opened by Dr. R. J. Christie, who gave a very interesting and detailed report of the meeting of the North American Surgeons in Chicago last November.

Dr. C. D. Center, councillor for the sixth district, addressed the society on "Medical Organization." His talk was very brief but to the point and brought forth numerous discussions and questions. After this the meeting adjourned.

ELIZABETH B. BALL, *Sec'y.*

*Regular Meeting, Feb. 9, 1914.*

The Adams County Medical Society met in regular monthly session on Monday, February 9, 1914, at the Chamber of Commerce rooms, Quincy, Ill. Luncheon was enjoyed by about fifteen members at the Hotel Newcomb.

At the business session in the morning a set of resolutions on the death of Dr. L. R. Whray of Golden were read, accepted and a memorial page set aside in the records; also a copy ordered to be sent to the family. Dr. Whray was one of the pioneer physicians of Adams county. A man absolutely ethical in his profession, esteemed and respected by his friends and associates. By his death the Adams County Medical Society has lost an excellent member and a good friend.

Dr. T. B. Knox, president of the Adams County Anti-Tuberculosis Society, addressed those present in regard to the anti-tuberculosis movement in Adams county. He asked for the co-operation of the members in the various undertakings and measures connected with this new movement. A resolution was passed endorsing the movement and offering the assistance of the society in any way that it could be helpful. A number took out memberships in the Anti-Tuberculosis Society.

Our guest on this occasion was Dr. Francis Reder of St. Louis, who read a carefully prepared paper on "The More Serious Phases of Intestinal Stasis." He showed a number of beautifully illustrated charts and also some fine specimens. A discussion followed, which was led by Drs. Christie, Center and Stine. Each one present felt deeply grateful to Dr. Reder and expressed the wish that he would visit us again in the near future. He was unanimously elected to honorary membership in our society.

The meeting then adjourned.

ELIZABETH B. BALL, *Sec'y.*

**COOK COUNTY.**

CHICAGO MEDICAL SOCIETY.

*Regular Meeting, Jan. 28, 1914.*

Contagious Hospitals.

1. The Need of Contagious Hospitals for All

Classes of Patients in This City. Martin M. Ritter, Chairman Propaganda Committee.

2. The Methods of Spread of Contagious Diseases. J. O. Cobb, Assistant Surgeon General U. S. Public Health Service.

3. Quarantine in Contagious Diseases; Common Sense and a Study of Human Nature Necessary to Be Effective. P. J. H. Farrell, Major, Sanitary Corps, U. S. Army, Philippine Islands, 1898-1901.

4. The Consideration of Contagious Diseases from the Standpoint of the State Board of Health. J. A. Robison, President State Board of Health of Illinois. Discussion: A. C. Cotton; Edna Foley, R. N., Superintendent Visiting Nurse Association; Julius Hess.

*Regular Meeting, Feb. 4, 1914.*

Canadian Night.

Eight Years' Experience with Graves' Disease. Geo. A. Bingham, Professor Clinical Surgery and Clinical Anatomy, University of Toronto, Toronto, Canada.

Discussion—Heart, Arthur R. Elliott; Eye, J. B. Loring; Surgical Treatment, A. E. Halstead; Serum Treatment, Orville McMichael.

*Joint Clinical Meeting Between the Chicago Medical Society, the Stock Yards and Englewood Branches at the Stock Yards Inn, Feb. 11, 1914.*

Stock Yards Branch.

Medical Cases. I. Clark Gary, R. S. Love and J. F. Hultgen.

Skin Cases. K. A. Zurawski.

Surgical Cases. W. S. Hector, W. J. Hurley, W. L. Porterfield and H. Hofman.

Discussion—Geo. Glaser, C. F. Friend, T. J. Sullivan and R. Haley.

Englewood Branch.

Presentation of cases as arranged by Carl Langer. *Regular Meeting, Feb. 18, 1914.*

1. Rheumatism. Alex F. Stevenson, Jr.

2. The Internal Administration of Radium in Chronic Rheumatism. Wr. H. Cameron, Pittsburgh, Pa.

3. Observations on the Diagnosis and Treatment of Rheumatism and Allied Diseases. Geo. Butler, Mudlavia.

4. Serum Treatment. E. R. Larned, Detroit, Mich.

Discussion—H. W. Gentles and W. M. Thompson.

ENGLEWOOD BRANCH, CHICAGO MEDICAL SOCIETY.

*Thirteenth Annual Banquet and Ladies' Night, Jan. 21, 1914.*

The thirteenth annual banquet and ladies' night of the Englewood Branch is now a matter of history and has been justly recorded as a most brilliant success. Its memory, however, will linger long in the minds of those who were present. Progression is the watch word of Englewood, and while last year's banquet was a huge success it wore the laurels only one short year. The thirteenth annual (who said thirteen was unlucky), now holds the honor so graciously and unan-



imously conferred upon it by the 236 who were present.

To the banquet committee, composed of Drs. J. W. McGuire, chairman, Rupert M. Parker, J. A. Waska and A. C. Kleutgen, great credit is due.

To them the satisfaction of having "put over" a most brilliant success is ample reward for their hard labor. To each and every one who was present we extend our sincere thanks and appreciation, realizing

were highly successful and we thank you and herewith express our appreciation.

During the banquet feast, and while partaking of Mr. Hill's delicious and appetizing food, the orchestra played sweet strains of music and Mr. John M. Forsythe sang some popular (perhaps unpopular) songs. After having thus satisfied the "inner man" the assembled crowd was invited to adjourn to the large ball room where a stage had been erected for the



CHARACTERS IN L'AMOUR MEDECIN (LOVE'S THE BEST DOCTOR) BY MOLIERE, AS PRESENTED AT THE THIRTEENTH ANNUAL BANQUET AND LADIES NIGHT OF THE ENGLEWOOD BRANCH, CHICAGO MEDICAL SOCIETY.

that without their help success would have been impossible.

Great credit is due Mr. John A. Hill of the Stock Yards Inn, for the able and efficient manner in which he handled the large crowd. The service was all that could be asked, the food the very best and served to the "Queen's taste." Also in the matter of stage erection and the many other little things, Mr. Hill proved himself most willing and obliging. His object seemed to be to please, to give more than he had promised. That delightful and refreshing frappe served after the banquet and show, and so greatly enjoyed by all, was given, unsolicited and free of charge, by Mr. Hill. Your efforts to please, Mr. Hill,

presentation of L'Amour Medecin (Love's the best Doctor), by Molière.

Just before the great play started Dr. A. T. Webber favored us with a cornet solo, this coming in the nature of a surprise. He was loudly encored after his selection from "The Palms," and responded with "When It's Apple Blossom Time in Normandy." His playing was beautiful and greatly enjoyed by all.

The curtain is up and the great show is on. Would that time and space permitted a detailed account and that adequate words could be found to justly describe its great success. The presentation of this play was an undertaking unprecedented in the annals of medical banquets. Each and every person connected there-

with deserves great credit and praise. To Dr. Rupert M. Parker the greatest credit is due for suggesting and working up this play as presented. His work may be likened unto the foundation of a beautiful home, the superstructure resting and depending entirely upon the foundation. To Dr. J. A. Waska we must credit the beauty of the superstructure—the successful acting of the various members being made possible through the ardent and untiring efforts of this competent actor and stage manager. However both Parker's and Waska's efforts would have proven futile had any member of this, now famous, company evidenced any shortcoming at all. Each and every member was a star. There was not a weak point anywhere. Waska, as Sganarelle, proved himself a past master in the art of acting. Mrs. P. C. W. Johannes, as Lisette, could not have been improved upon. Miss Veronica M. Cronin, as Lucinde, took her part extremely well, and as Sganarelle's beautiful daughter was a complete success. M. L. Mendel and P. C. W. Johannes as M. Tonis and M. Des Fonandres were as good as they make them and took their parts to the satisfaction of all. G. Henry Mundt, as M. Macroton, and C. Hubart Lovewell, as M. Bahys, proved a pair hard to beat. Lovewell was so well adapted to the part of the quick and witty M. Bahys and Mundt to the slow talking M. Macroton. These four consulting physicians could not have done better, but for Macroton's inimitable cough may we deign to prescribe "some small anodyne." W. H. Abbott, as Clitandre (Lucinda's lover) was extremely fine and proved himself some lover. He was beloved by all, for, as you know, "all the world loves a lover." Parker, as the Notary, took his part with all the dignity of a notary of the seventeenth century.

The play was a "howling success" and to each and every one taking part we extend our thanks and our appreciation. Your hard work and untiring efforts were crowned by signal success, appreciated and praised by all.

The banquet was undoubtedly the best ever, for which we must give due credit to our hustling chairman, Dr. J. W. McGuire.

The whole affair, the united efforts of all, serves as the expression of the esteem and affection in which our genial president, Dr. Julius H. Hess, is held by the Englewood branch. We were also singularly honored by the presence of several distinguished guests, among which may be mentioned Dr. C. P. Caldwell, president of the Chicago Medical Society; Dr. J. C. Hepburn, president of the stock yard branch; Dr. Martin M. Ritter, president of the north shore branch; Dr. Paul E. Kelly, president of the north-west suburban branch, and others.

Immediately after the show the room was cleared and dancing was in order. Everybody had a good time, everybody was happy, and everybody carried away pleasant recollections of the thirteenth annual banquet and ladies' night of the Englewood branch.

## ENGLEWOOD BRANCH, CHICAGO MEDICAL SOCIETY.

*Regular Meeting, February 3, 1914.*

The February meeting of the Englewood branch was held Tuesday evening, February 3, at the Englewood Hospital. The meeting was called to order shortly after nine o'clock and the following scientific program presented:

Edema .....C. Hubart Lovewell  
Anaphylaxis.....Arthur I. Kendall

Dr. Lovewell's paper was exceedingly well written and gave a wealth of practical points concerning edema. In a concise yet thorough manner he covered his subject.

Dr. Arthur I. Kendall then spoke on the subject of anaphylaxis and a more lucid, interesting and valuable exposition of a difficult scientific subject it has not been my pleasure to hear. He clearly explained what was meant by anaphylaxis and beautifully described the mechanism. He spoke of the various idiosyncrasies, stating that most were true anaphylactic phenomena. Likewise the various bacterial infections were anaphylactic. That in typhoid the germ is taken into the body as the alien proteid; that the first two weeks, corresponding to the period of incubation, the germ remains unbroken. Then the germ becomes broken, the so-called poisonous central substance is liberated and we have the symptoms of anaphylactic shock. He spoke at length on diphtheria antitoxin and gave many valuable points, stating that sudden death is not due to antitoxin, but to the horse serum, and that the victim in many cases is found to belong to the "status lymphaticus" or "asthmatic" group.

He spoke of the practical side of anaphylaxis, explaining its use in diagnosis, as in hay fever, tuberculosis, syphilis, glanders, etc. To ascertain whether a given patient possesses any hypersensitiveness and to guard against severe anaphylactic reaction he advises that a very small amount of serum be given, then waiting for half an hour, and, if no reaction, the injection may be completed with safety. All in all, his talk was very instructive and highly entertaining.

The discussion was opened by Dr. H. Gideon Wells, who complimented Dr. Lovewell on the concise presentation of his subject and gave Fisher's theory concerning the etiology and treatment of edema, stating that whatever the fate of Fisher's theory, he must be given credit for his great work on colloids and their affinity for water. He spoke of the scientific progress and the part played by instruments of precision; the exactness of the thermometer, blood pressure apparatus, etc. He then described one of the latest instruments of precision, the elastometer, an instrument to measure the exact degree of edema. He stated that with this instrument it is possible to detect and measure the degree of edema in cases where the usual methods fail to show any, such as in cases of pleurisy, by placing it over the chest wall



or in cases of meningitis by placing it over the scalp. The description of this instrument was extremely interesting.

In speaking of anaphylaxis he stated that he felt very proud of the great work Americans as Vaughn, Rosenow and others had done on this important subject, and that to American men the greatest credit was due. He then spoke most instructively on the practical side of anaphylaxis, giving interesting laboratory experiments to show their value in obtaining definite information for practical use. To illustrate: It was sought to determine why asthmatics reacted more and to ascertain what would prevent or reduce this reaction. Experiments showed that guinea pigs died from bronchial spasm—muscular choke; also that the injection of atropin and adnephrin would reduce this reaction. Likewise in the experiments to determine the cause of sudden death it was found that when the foreign proteid—the serum—was injected intravenously in an animal previously sensitized, death would quickly follow. This leads to the conclusion that when death from the use of serum occurs suddenly it has accidentally been injected direct into the blood stream of a patient already hypersensitive. These two factors must be present. He spoke of the relation of infectious diseases, of how the growth of the germs, such as typhoid and tuberculosis, represented the growth of a foreign proteid and that the anatomical place in which they grow determines the symptoms. Miliary tuberculosis, for instance, being very like typhoid in its symptomaticology.

Dr. Wells' address carried with it a wealth of information and was both interesting and instructive.

The discussion then became general and many interesting experiences were related.

A vote of thanks was extended Drs. Kendall and Wells.

The meeting was very instructive. The attendance was sixty-seven.

ARTHUR G. BOSLER, Secretary.

#### CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

*Regular Meeting, May 27, 1913.*

The president, Dr. J. Gordon Wilson, in the chair.

#### DEMONSTRATION OF TWO CASES.

Dr. Otto J. Stein said that there was nothing unusual in the case of Vincent's angina in the boy, but he wanted to show the specimens correctly, side by side with the clinical case. These specimens are very profuse in the characteristic organism—the spirillum and the fusiform bacillus. He took some of the smear from the left tonsil, which was involved at the time—and after abrasion of the tissues of the right tonsil, the one not involved, he put this secretion underneath. You cannot inoculate on the surface. Being anerobic, it must be buried. Both tonsils are now ulcerated. (Later: Two weeks

after showing this case, both tonsils were removed completely by Sluder technic, with no infection of surrounding tissue.)

In the second case the double abductor paresis was rather unusual. He had not seen this man since a month ago, and he presented a typical abductor paresis at the time. The right cord showed an involvement of the internal tensor as well, with serrated edge and shortening of the cord, and a slight dipping inward of the arytenoid ridge, while the left cord showed nothing but involvement of the abductor up to the vocal process. The little chink was present in the back. On attempt to separate by deep inspiration, the cords made a quiver—just an effort and nothing more—there was no abduction whatsoever. Examination for some cause in the neck and chest revealed nothing physical. There was no evidence of anything, and only the x-ray demonstrated the presence of the aneurysm which involved the entire arch, around to the end of the third division of the arch. Dr. Stein understood, from what internists told him, that it is not unusual at all to have absolutely no physical manifestation of the aneurysm for some time, while the x-ray pictures will show it always before such manifestations develop, as in this particular case, and which demonstrates very nicely what the laryngologist can do sometimes in arriving at an early diagnosis.

#### DEMONSTRATION OF THE STRUYCKEM-SCHAEFER MONOCHORD.

Dr. Alfred Lewy states that various instruments have been used for testing the hearing of higher tones, such as the Galton whistle, Koenig rods, and the Meldestimplatten and the monochord. This one is the Struyckem-Schaefer monochord. The number of vibrations depends on the length, width and tension of the strings. The pitch is known by the position of the movable block. Range from about *g* to beyond the high pitch of human perception. Can be used for bone as well as air conduction. The lower tones are brought about by the transverse vibrations, the highest tones by the longitudinal vibrations. The most practical application of this instrument is in testing the high tone limit. By means of this instrument, Wolff, of Berlin, came to the conclusion that characteristic for nerve deafness is a greater loss of perception for high tones by air than by bone conduction; that is, bone conduction is better than air conduction for high tones, the reverse being true for lower tones. This also occurs in marked effusions of fluid in the middle ear or external canal.

#### DISCUSSION.

Dr. Robert Sonnenschein said so far as he can see, with the use of the instrument demonstrated by Dr. Lewy, with which he has had only slight experience, it is very difficult in a great many cases, when you get up as high as *c*, 6, and *c*, 7, to get an appreciable tone constantly. Of

course, when you get down to small c, 4 and 5, you can, but you can get that with a good tuning-fork. So thus far he cannot see any very great advantage, as compared with a small c, 5, fork.

Dr. George E. Shambaugh said that he is coming to appreciate more and more that the testing of the upper tone limit is one of the most valuable tests that we have in diagnosis, as well as prognosis. A c, 4, tuning-fork does not suffice for this test—except in advanced stages of labyrinth deafness—but where one gets an appreciable loss of hearing for the c, 4, tuning-fork, one could dispense with the test, because the other tests would show you the condition.

The testing of the upper tone limit is especially valuable in the study of cases of advanced, long-standing middle-ear deafness. In many of these there begins sooner or later to develop a degeneration in the labyrinth—labyrinth deafness which one cannot detect with the Weber and Rinne or the Schwabach tests, because these tests will continue to give the characteristic reactions of middle-ear deafness. The quickest way in which one can detect beginning labyrinth degenerations is by testing the upper tone limit.

Dr. J. Holinger said that Burkhardt-Merian, of Basle, was the first to recognize the diagnostic importance of the upper tone limit, and used it systematically. He employed a whistle which he perfected in all details, calling it "Galton whistle." The original Galton whistle had simply the movable piston, and was not made for the highest sounds. Burkhardt-Merian determined the form of his mouth and its relation to the bore of the whistle. He introduced the screw and gauge on the piston. It ought to be called "Burkhardt's whistle." Some of these Galton whistles have done pretty good service. Others were not executed so carefully and accurately; therefore, the results were not uniform. Later on, Edelmann knew that the upper limit of his series was the most unsatisfactory part. He tried to gauge his whistles by means of Schwendt's dust figures. But in 1899, when Dr. Holinger got his set of tuning-forks, there was a rumor that the Galton whistle was not scientifically accurate. It was said that in the highest pitch a turn of the screw of the piston means a rise in pitch of half an octave; in the lower region of the whistle, only one or two tones. Therefore, the original Edelmann's whistle could not be considered a "scientific" instrument. It was improved later on. In 1909, when abroad, the speaker saw the monochord in use very extensively, but it was an entirely different instrument from the one demonstrated by Dr. Lewy. He had the impression then that it was not an instrument to be used in the office every day, because it was unhandy. The instrument shown by the essayist is carefully gauged and is much more handy.

Dr. William L. Ballenger has had no experience with this instrument, although he has owned one for years. He did not understand just how to use it

until Dr. Goldstine's article came out last March. He has had great difficulty with the Edelmann Galton whistle. The instrument he has was made in 1903. It can be tuned in different pitches. That is, you cannot set it and then go up all the pitches by turning the main apparatus, but you must turn a tuning apparatus at the other end of the instrument, and he finds great difficulty in getting the same intensity of pitch, and hence he has felt that it was not a very useful instrument in his hands. But with this instrument we can have a constant pitch and greater accuracy. It is a simple instrument, and he hopes to make use of it in the future.

Dr. Lewy, in closing the discussion, said that the practical advantage that the instrument he exhibited had over the Galton whistle is that it assists us in obtaining the bone conduction for high tones as well as the air conduction. The Galton whistle gives us only the air conduction. It may be that through this we will be able to add to our diagnostic and prognostic ability. He simply presented the instrument for what it was worth, and in the interests of the society.

#### THE NASAL VOICE WITH REFERENCE TO ITS BEARING ON THE PRACTICE OF RHINO-LARYNGOLOGY.

Dr. Elmer L. Kenyon gave, 1, the manner of production of the different forms of nasaling, with differential diagnosis; 2, application to the practice of rhino-laryngology. Both functional forms of nasaling occur not uncommonly following operations for adenoids—mistaken operations on the nose by rhinologists, because of ignorance of the forms and diagnosis of nasaling. Other functional causes for nasal voice; 3, whether the object be to lessen any existent tendency to middle-ear inflammation, or to improve the breathing through the nose, or to improve the speech, the presence of an imperfect palate serves to reverse in large measure the ordinary indications for operation for an occluded nose or naso-pharynx. If this be not carefully borne in mind in cases of cleft palate, much harm may be done to the already impaired speech; 4, treatment by voice training for both forms of functional nasaling.

#### DISCUSSION.

Dr. J. Holinger thinks there is another phase to the question discussed by Dr. Kenyon. Dr. Kenyon warned against the removal of adenoids under all circumstances, without regard to other organs. This is a timely suggestion. At present the speaker is treating a child whose adenoids had been removed about a year ago by a laryngologist who does not make any pretensions of treating ears. The boy has highly retracted drum membranes, is therefore hard of hearing and has a decided defect of speech, consisting of an apparent rhinolalia, which is nothing but the consequence of lack of hearing. The ear was treated three or four times, and the mother was



instructed to watch the boy. It was surprising how quickly he improved; he speaks much better now. Dr. Holinger thinks it is often not so much a question of instruction as a question of correcting the condition in the ear.

Dr. Joseph C. Beck was very much interested in the paper, and it reminded him of some cases that he had had of speech defects. One case he showed before the society several years ago, of rhinolalia aperta, in a case of congenital short palate, which, through training, before he had done anything, refused to respond. He subsequently injected paraffin behind the mucous membrane in the region where one would expect this palate would meet the posterior margin of the soft palate, and immediately after the injection this patient began to speak more clearly and distinctly, and the result was very satisfactory, indeed. There was an interesting fact about this patient, and that was she was a woman then of twenty-five years and did not know that she had this defect. The doctor wanted a record of her speech before he did anything for her and so he thought of Dr. Brown, of Milwaukee, who had recorded his cases by phonograph, so he had her talk into a machine, and when she heard the record she was completely paralyzed and fainted away, for she did not know she had spoken that way.

He was reminded of another case following removal of adenoids, in which the patient developed a distinct rhinolalia aperta, and he thought that he had perhaps traumatized the palate. There was perfect action in the palate. The condition did not improve for some time. He examined the patient very carefully, and found a very soft portion of the hard palate, and in taking a dental radiogram he found a marked deficiency of bone in the hard palate—a congenital deficiency. This voice defect was not present while the adenoids were present, but when he had removed the adenoids—which was not done for any other purpose than a distinct systemic condition—this speech defect occurred.

Another point: The doctor said it is difficult to examine the palate. Dr. Beck has examined the palate, and you can see the action of the palate during speech and see what condition it is in.

Dr. Alfred Lewy said that one idea that impressed him after hearing Dr. Kenyon's paper was the great neglect of the entire subject of speech defects by the medical profession in this country. Most of the treatment of speech defects is done by people who advertise to cure stammering, and use bizarre methods, such as causing the patient to sing the words or to go through certain peculiar motions, and so forth. In the public schools in Chicago some effort has been made to train special teachers in the correction of defective speech, but altogether, in this this country, the subject has been very largely in the hands of charlatans, and he thinks it is largely the fault of the medical profession, and that we need such papers as that of Dr. Kenyon to show us the

importance of the subject and the possibilities that lie therein.

Dr. Kenyon, in closing the discussion, congratulated Dr. Holinger on his diagnosis in the patient whose hearing was impaired. It is often not an easy diagnosis to make. Many a child talks badly because he does not hear correctly. Many a child does not talk at all because he cannot hear exactly, and he may not be more than moderately deaf.

Paraffin injection in palatal cleft is, of course, a valuable procedure. He referred to it merely to point out that adenoid tissue serves exactly the same purpose as the paraffin—it helps to prevent the air from going upwards into the naso-pharynx, when the impaired palate does not sufficiently perform that function.

It would seem as if the naso-pharyngoscope passed through the nose into the naso-pharynx might aid in diagnosis in difficult cases of imperfect palatal movement, by enabling one to watch the movements of the palate; but diagnosis is usually possible by the much more simple methods described.

So far as the patients not recognizing their own voices is concerned, that is very true. None of us know our own voices, and patients with the most apparent defects of speech—if they be children and have never been told about their incorrectness of speech—believe that they talk as well as anybody, and they have to be told in order to know that they have a defect of speech.

#### REPORT OF HEAD CASES IN WHICH SKIAGRAPHS ARE OF INTEREST.

Dr. W. L. Ballenger presented a number of very interesting and instructive photographs of skiagraphic plates to illustrate their value in the study of the diseases of the nasal accessory sinuses and mastoid process. He presented two plates which showed a single ethmoid cell involved in each instance, and brought out the fact that in such cases the operation for the drainage and exenteration of the diseased cell could be done with a minimum amount of surgical trauma. In one of these cases the patient had been repeatedly operated on by a competent specialist, but without relieving the suppurative symptoms. Dr. Ballenger, by means of the plate, located a single ethmoid cell, which he operated on, with entire relief to the suppurative process. In the other plates showing a single cell involved, it had been diagnosed as a case of cerebro-hydrorrhea, because of the profuse watery discharge from the patient's nose. The plate, however, shows one cell located under the right frontal sinus to be involved. The interesting points concerning this case were the possibility of locating a single infected ethmoid cell, which was giving rise to a nasal hydrorrhea. There was no purulent discharge in this case, but, in spite of this, the cell was distinctly cloudy, as much so as in suppurative disease. It also cleared up the diagnosis. He also showed plates showing the osteoporotic destruction of

the inner plate of the frontal bone from luetic disease. Also plates contrasting a healthy mastoid process with a diseased process.

Plates were also shown showing extensive fractures of the skull, in which the patient, while riding in an automobile, collided with a telegraph pole and was rendered unconscious for three or four days. On recovering, he was found to have nystagmus to the opposite side, nausea and vomiting. On examination by Dr. Ballenger, two months later, the nystagmus, nausea, etc., had disappeared, but he still suffered from disturbance of equilibrium, and was totally deaf in the right ear. The plates show a large arch fracture, extending from the outer angle of the left orbit to the inner angle of the right orbit, and a Y-shaped fracture extending through the temporal bone on a level with the cochlea and vestibular apparatus.

#### DISCUSSION.

Dr. R. C. Lynch, of New Orleans, (by invitation) said that he had been using x-ray plates in his work in New Orleans for the last six or eight months, and has found that they help very materially in every branch of the work, especially in the diagnosis and proper interpretation of sinus suppurations. One case of mastoiditis that gave him a good deal of concern, because of the very chronic character of the inflammation and of so few clinical symptoms that accompanied the condition, was really treated successfully on account of the use of the radiogram. This patient had the usual onset in an acute otitis; the drum ruptured. He was an ignorant man and neglected it for some time, and then began to suffer with headache, and the headache was the only symptom that he gave of any disturbance. His headache increased in intensity until he came to the clinic for observation or for some relief. The x-ray picture showed the normal side to have a very extensive cellular mastoid, the cells extending well forward into the zygoma, very much higher than usual, over the roof of the tympanic cavity and far back, and especially the tip was very large and cellular. On the diseased side it showed the process to extend even into the diploe, and he was rather suspicious of a low-grade osteomyelitis developing in this case, and in consequence, or, rather, as a result of the extreme degree or the great amount of involvement of the bone, as shown by the x-ray. In doing the operation, he extended it well beyond the limits that he would had he not had the x-ray picture at his side. This man recovered without any disturbance. Dr. Lynch believes that if he had not had a radiograph at his disposal, and the measurements taken carefully before operation by the radiologist, that the extent of the operation would not have covered the diseased processes, and the consequence would have been that this patient would not have recovered in the very nice and proper way that he did under this treatment. So that he believes that the x-ray is very valuable.

Dr. Joseph C. Beck said that it was too bad that Dr. Ballenger could not have shown the plates instead of the photographs. It has been, by the radiologists all over the world, a prohibitive thing to demonstrate facts by photographs, and he was partially to blame for this exhibition tonight by photographs, because he promised Dr. Ballenger that he would bring down these frames for showing the plates. So he wished to apologize.

It was certainly a pleasure to him to hear men express themselves in such a way regarding the use of the x-ray. He was and is very enthusiastic over it, but still he might say at this time that he is losing a bit of this great enthusiasm.

The fine points that Dr. Ballenger brought out, of localizing one single cell, he would take issue with, especially in a single radiogram, for how can we know by looking at one plane from one point how many cells are involved? With stereoscopic pictures, however, we can tell better how many cells are involved. The speaker would not like to go on record as saying he could make this diagnosis.

Another thing: To leave the interpretation of the condition that you are dealing with to a radiologist is a mistake. Leave him out entirely. Just see that he takes it correctly, and make your own interpretation of the print.

Dr. Ballenger, in closing the discussion, said that Dr. Beck was entirely mistaken about the impossibility of showing a single cell except by the stereoscopic method. If the print is taken from the corner of the head, as it were, through the orbit, and not the front view, in this way you get a perspective view of the cells back to the sphenoid, and as far forward as the frontal and anterior ethmoid. You can see the cells one by one from the front to the rear, and then, if you will take the opposite side, you will also see that same cell from the opposite side, but from a different angle, and in that way, by taking two plates of the cell, one cannot be misled, and if the cell is one that can be penetrated with a probe, if it happens to be so located, you can place it accurately and only remove that one cell, as was done in one of the cases reported.

In the second case reported, he removed two or three cells. The point he wanted to make was simply that it is possible to do this without stereoscopic plates. In taking the pictures as suggested, one plate shows absolutely every sinus of one side of the head, and the second all the cells on the opposite side, and he knows of no possibility of being confused by this method.

#### PRELIMINARY REPORT ON CAISSON WORKERS' DEAFNESS.

Dr. G. W. Boot presented twelve cases with the hearing tests. Cassion workers are subject to a series of accidents which are known among the men as being "blocked," "the bends," "the chokes" and "blind staggers." The first and last are the only



conditions which are of special interest to the otologist. "Blocked" appears to refer to an acute tubal occlusion. "Blind staggers" refer to a condition in which there is vertigo. The examination of these twelve cases shows that those of the men who had some predisposing lesion in the nose developed the symptoms of tubal tympanic catarrh, but the characteristic change was the development of a labyrinthine type of deafness. There was lowering of the upper tone limit and shortening of bone conduction, with positive Rinné. The amount of labyrinthine deafness depends on the length of time the individual worked under compressed air, as well as the amount of pressure he worked under. The greater the pressure and the longer the time, the more marked was the degenerative change in the labyrinth. The characteristic deafness occurred gradually and appears to be the result of a gradual degeneration of the cochlear branch. Workers under compressed air should undergo an examination of the ears and nose before being permitted to follow this occupation. Abnormalities in the nose should be corrected. The labyrinthine deafness that occurs is incurable and can be prevented only by refraining from working under compressed air. The sudden lesions occurring in the semicircular canals, vestibule and cochlea from the formation of air bubbles, can be prevented by a slower decompression on coming out from the compressed air.

#### DISCUSSION.

Dr. Peter Bassoe (by invitation) said he was glad that Dr. Boot had reported this work to the society, because otologists can do a great deal toward clearing up various points about caisson disease, and also there are things in caisson disease that come as near animal experiments on a human being as anything can be, and if properly carried out at the proper time, may help to clear up many points in otology.

We must bear in mind that the man who works in compressed air is subject to trouble when he goes into the compressed air and when he comes out again. So far as ear conditions are concerned, the most common ones, such as "blocking," are brought about during compression, and the ear is the only organ affected by the state of compression. Of course, what happens when the air pressure is rapidly rising is that the air is all the time being compressed, there is more oxygen and nitrogen taken into the blood, and in order to avoid being "blocked," the middle ear must contain the same kind of air as the outside air, otherwise there will be unbearable pressure on the drum, hence every worker is taught to swallow air while going in, and if he does not do that, he invariably gets "blocked." Some of those who have investigated very extensively along this line believe that primarily all of the ear troubles of caisson workers are due to this stage of the compression—that the chronic troubles that follow in the middle ear and internal ear are secondary to

this disturbance that occurs during blocking. The work of Dr. Boot has shown that we do deal with a good deal of labyrinth trouble in many of these cases, and it seems to the speaker that he has shown pretty well that the stage of decompression has a good deal to do with it. Practically all of the other forms of caisson disease are due to the liberation of the air from the blood during too rapid decompression. That is, the period of danger in caisson workers. Air bubbles are liberated in the joint fluids, cerebrospinal fluid, or spinal cord, and they may become paralyzed. Dr. Bassoe examined about a hundred and eighty men, over half of whom gave a history of trouble coming on after they came out of the caisson, particularly the cases of "blind staggers." They come out, are extremely dizzy, vomit, and often become deaf. It is of interest to figure out what happens in those cases, and whether it is liberation of air in the endolymph or a liberation of air in the auditory nerves—perhaps sometimes in the brain. There is here a possibility of the production of local lesions, that might be of great interest to otologists. It has been suggested, for instance, that a local lesion might produce tone islands or other interesting disturbances, but so far as he knows, trained otologists have rarely gone to work on these cases. Some work has been done in Vienna, where some very painstaking observations were made. It would seem that otology might profit from a study of this disease, because it is almost comparable to an experiment. You take a man from the normal pressure of fifteen pounds and put him in forty-five or fifty pounds in so many minutes, and let him out in so many minutes, and then study the conditions present. We have this work going on nearly all the time, with wonderful opportunities for research. In the fatal cases we now know quite well what we are dealing with, namely, air bubbles in the blood. There is sometimes the condition spoken of as "chokes," in which the patient becomes suffocated and cyanotic. He sometimes recovers, but more often dies, and it has been found that the right auricle may contain huge air bubbles.

Dr. J. R. Fletcher thought that the cases referred to by Dr. Boot having the blind staggers are very likely serous labyrinthitis. It seems to him that where the air bubbles are liberated in the cochlea or in the semicircular canals, the damage would be very great to the organ. After mastoid operations we frequently see the production of serous labyrinthitis, and it acts in just the same manner that Dr. Boot mentioned in his paper, and it is not incomprehensible at all that the increase of pressure should produce a rather prolonged hyperemia, primarily, which would produce what we are justified in calling a serous labyrinthitis. In the cases in which the damage is very great there must be, then, a large quantity of fibrin in the serum, which becomes organized and does the real damage. So long as there is not much fibrin thrown out, the recovery

is probable, but sometimes very slow, even extending over years. In operative cases—not caisson workers—it may extend over a long time, but the majority recover.

Dr. Boot, in closing, said that the most characteristic thing in these cases is the degeneration of the auditory nerve, just as you see in deafness resulting from occupation—boiler-makers' deafness, for example—a slow degeneration that goes on, not at the time the men are working, but afterwards, after they have ceased working. This degeneration continues for a considerable length of time, and they lose the upper limit of hearing. That, he thinks, is the most characteristic lesion in these ear cases.

Another point of considerable importance is the fact that the lesion of the vestibular portion of the nerve, whatever it may be, seems to be recovered from completely. There was only one case where he did not get perfect response to the caloric test.

When going under compressed air, the endolymph would be forced out, and as they came out it would be forced back in again into the endolymph canals.

Dr. Wilson said that he thought the perilymph is the part that is first affected in the compression.

Dr. Boot thinks the blocking is purely middle-ear trouble, the same condition we see in coming up and down in elevators, and which is relieved by swallowing, and these men are instructed to swallow. The other features he thinks are of the labyrinthine type—changes in the labyrinth.

He had hoped to be able to make some experiments with guinea pigs, in order to get the microscopic appearances of these ears, but as yet has not had an opportunity to do so.

Dr. Stein asked whether any of the cases had died and post-mortems been performed, to which Dr. Boot replied that he knew of none who had died.

#### DE WITT COUNTY.

The De Witt County Medical Society met in the Elks' clubrooms in Clinton, Ill., January 20, 1914, at 2 p. m., with President O. B. Edmonson in the chair. Those present were Drs. Chapin, Cole, Davis, G. S. Edmonson, O. B. Edmonson, Wilcox, Graham, Myers, Pugh, Price, Marshall, Hooker, Carter, Dr. Cleaves Bennett of Champaign and Dr. C. S. Nelson of Springfield.

The minutes of the previous meeting were read and approved.

Dr. Bennett then addressed the society, speaking on the subject of "Obstetrical Difficulties." The doctor spoke from an experience of about 1,000 cases of confinement in his own practice and a considerable number of cases seen in consultations in the practice of his confreres. His observations covered placenta previa, post-partum hemorrhage, eclampsia, abnormal presentations, contracted pelvis, lacerations and others of the obstetrical emergencies, accidents and complications that cast their shadows across the rose strewn path of the obstetrician in general prac-

tice. Dr. Bennett is a ready speaker and his address had the earnest ring that betokens an intimate experience with the difficulties under discussion. The lessons suggested by these experiences are to be thorough in the examinations, watchful during the progress of labor, to keep a cool head and a stout heart in the event of an emergency, to institute the appropriate treatment promptly, and, above all, to call in counsel without undue delay.

Dr. Bennett's address evoked generous discussion. Almost every physician present spoke on some one or more of the "Obstetrical Difficulties" and reported illustrative cases from their own experience.

Dr. C. S. Nelson was then called to speak. Dr. Nelson was present by virtue of his position as councilor for this district.

To the surprise of most of the physicians present Dr. Nelson disclosed the fact that he was born in De Witt county and lived here for many years, having at one time conducted a drug store in the neighboring town of Wapella. He related a number of interesting anecdotes relating to the period of his residence in this county and then in his capacity of councilor addressed the meeting on the general subject of medical organization. He spoke in particular of the dangers to the people and to the medical profession from attempts at unwise and vicious legislation and of the necessity for thorough organization by physicians the better to protect their own interests and those of the people whom they serve.

The address was well received and at its conclusion a vote of thanks was given both Dr. Nelson and Dr. Bennett for the valuable and interesting part they had contributed to our program.

The election of officers for the year 1914, left over from the October meeting, was then carried out and resulted as follows: President, J. C. Myers; vice-president, C. W. Chapin; secretary-treasurer, C. W. Carter; censor, J. M. Wilcox.

A motion then prevailed that the public be notified by a card in the daily press the day preceding our regular meetings that office hours will not be held during the time of meeting in order that physicians may not be prevented from attending said meetings.

A motion was then made and carried that we adjourn to meet Friday evening, January 23, at 8 p. m. in the Elks' clubrooms for the purpose of revising the fee bill and that notice of this meeting be given in the daily papers.

The meeting then adjourned.

CHARLES W. CARTER, Secretary.

#### JEFFERSON COUNTY.

The Jefferson County Medical Society met in the reception room of Drs. Thompson and Maxey in Mt. Vernon, Ill., Thursday evening, February 19, 1914. Twenty-five physicians were present and all entered into the spirit of the meeting, making it one of the most successful in the history of the society.



President J. H. Mitchell presided and the program of the evening was as follows:

"Tuberculin in the Diagnosis and Treatment of Tuberculosis," Dr. Moss Maxey. The most excellent paper of Dr. Maxey was discussed by Drs. Gilmore, Ward, C. W. Hall, Hamilton, Rainey and Andy Hall.

"The X-Ray as an Aid in Diagnosis" was presented by Dr. W. H. Gilmore. This was unusually interesting, as Dr. Gilmore illustrated his lecture by showing plates made from the various pathologic conditions.

Following the scientific program light refreshments were served, followed by several interesting impromptu speeches. Dr. George Tupper surprised the members of the society by singing his "Swan Song" and informing them that he had disposed of his office and business to Dr. E. E. Edmunson and that he would soon seek a new location, probably in southern California.

The following out-of-town physicians were present: Drs. Clark, Dix, Sibley, Carmi, Freeman, Belle Rive; Edmunson, Chicago; Rainey, Salem; Culli and Harper from Ina. Dr. Sibley, who is the councilman from this district, said this was the best medical meeting he had attended in southern Illinois.

ANDY HALL, Secretary.

#### McHENRY COUNTY.

The McHenry County Medical Society held a regular meeting at the village hall in North Crystal Lake, January 6, 1914. The meeting was called to order by the president, Dr. H. D. Hull, at 10:40 a. m. Present were Dr. T. A. Davis of Chicago and Drs. Hull, Freeman, Pflueger, Pillinger, Theobald, Maha, Wells, Anderson, Windmueller, Guy, Smith, Baccus, West, Francis and Thon.

The minutes of the last meeting were read and approved as read. The applications of Drs. W. V. Gooder of Marengo and H. C. Thon of Woodstock, having been acted upon favorably by the board of censors, these names were separately voted upon, and these doctors declared duly elected to membership.

Dr. Davis was then introduced by Dr. Hull and gave us a lengthy and very interesting talk on "The Diagnosis of Some of the More Common Surgical Affections of the Abdomen," speaking from the following general outline:

Importance of history, methods of physical examination, laboratory aids, importance of blood findings to determine time of operative intervention, recent biological methods in the diagnosis of carcinoma of the stomach, value of improved methods of radiography.

A clinical case was then demonstrated to the society by Dr. Davis.

At 12 o'clock the meeting adjourned to the hotel for dinner.

A. B. SMITH, Secretary.

#### MORGAN COUNTY.

The society met February 12, 1914, at Jacksonville in the library rooms. Members present were: Adams, Black, Cole, Dewey, Foley, Lowe, Milligan, McLinn, Norris, Ogram, Stacy, Webster and Woltman.

Drs. Black, Adams and Woltman reported the condition of the society's library. The maintenance of a current literature index and the services of an acting librarian during the past six years have involved an expenditure of about \$6,000 and has certainly been worth while, according to the feelings of those who expressed themselves in discussing the report. The society has decided to continue its subscriptions to the journals and also to continue the acting librarian and indexing.

The following is list of journals subscribed for: *American Journal of Insanity, American Journal of Medical Science, American Journal of Obstetrics, American Journal of Ophthalmology, Annals of Otolaryngology, Annals of Ophthalmology, Annals of Surgery, Archives of Internal Medicine, Archives of Ophthalmology, Archives of Pediatrics, Boston Medical and Surgical Journal, British Medical Journal, Edinburgh Medical Journal, Illinois Medical Journal, Johns Hopkins Bulletin, Journal American Medical Association, Journal Laryngology, Journal Nervous and Mental Diseases, London Lancet, Laryngoscope, Medical Record, New York Medical Journal, Ophthalmic Record, Ophthalmology, Surgery, Gynecology and Obstetrics, Therapeutic Gazette.*

Dr. G. R. Bradley presented a paper reviewing the "Etiology of Pneumonia." Dr. T. J. Pitner presented without manuscript points on diagnosis and treatment based upon his long clinical experience in this disease.

Dr. Josephine Milligan gave some valuable clinical data on pneumonia in children.

Drs. Webster and Stacy discussed the papers. Webster said that it was rare for pneumonia itself to end fatally, complications causing the exit of the patient. Stacy called attention to the facts necessary for establishment of infection: Infecting organism in sufficient numbers and an atrium and diminished resistance. The last factor being present in sufficient degree, practically always establishes a pneumonia. He mentioned bleeding to relieve the struggling heart and enteroclysis to resupply the circulatory deficit, as required.

GEORGE STACY, Secretary.

#### ROCK ISLAND COUNTY.

The Rock Island County Medical Society held a regular meeting February 10, 1914, at Manufacturers Hotel, Moline. Called to order by President Snively. Minutes of last meeting were read and approved. Dr. C. E. Robb of Rock Island was accorded unanimous election to membership. Acknowledgment of the *Chicago Tribune* for resolutions of the December

meeting were received and filed. Dr. First for the committee on public school medical supervision for the city of Rock Island, reported correspondence with fifteen superintendents of public instruction in as many towns, with the resulting impression that the system most in vogue is that of leaving this matter in the hands of a school nurse, with the occasional assistance of a consulting physician. The committee therefore recommended that for the present this society make no definite recommendations. The report was accepted and the committee discharged.

The scientific program was of exceptional interest, every number receiving the best of attention and arousing the desired discussion. The program was rendered in full, with the addition of some twenty or more "Hookworm" views through the courtesy of Dr. Littig.

"Injuries to the Nose," Dr. L. Ostrom, Rock Island.

"Vagotonia," Dr. L. W. Littig, Davenport.

"Market Milk" (stereopticon illustrations), Dr. O. P. Thompson, Waterloo, Iowa.

Unfortunately, the meeting was the poorest attended of the year. Present members: Leipold, Rochow, Snively, Williams, Beam, Chapman, R. B. Miller, Hauberg, Foster, Asay, Seids, Littig, Peterson, Sala, Lachner, Ostrom, First, West, Sargent, Craig. Visitor: Thompson.

W. D. CHAPMAN, Secretary.

### STEPHENSON COUNTY.

The annual meeting of the Stephenson County Medical Society was held at Freeport, January 29, 1914. The election of officers resulted as follows: President, Karl F. Snyder; vice-president, W. L. Karcher; secretary, J. Sheldon Clark; treasurer, Nelson C. Phillips; member board of censors, Mary L. Rosenstiel; delegate to state meeting, D. C. L. Mease; alternate delegate, James A. Poling.

Mr. John B. Newman, assistant pure food commissioner of the state of Illinois, addressed the society on the subject of food supplies and the handling of foodstuffs. He stated that milk and milk products constitute one-sixth of the world's food supply and that it behooved us to guard well this valuable article of diet that is rendered so dangerous to mankind by careless handling. Mr. Newman is not in sympathy with the common custom of exposing foodstuffs to "every wind that blows," but advised that they should be kept under glass or in cold storage rooms. He also invoked the backing of physicians for the reforms advocated by the state authorities. A vote of thanks was given Mr. Newman for his address.

The subject of adopting a fee bill was then taken up by the society and it was decided to charge \$2 for calls within the city between the hours of 7 a. m. and 6 p. m.; \$2.50 for calls between 6:30 and 10 p. m., and \$3 to \$5 for calls between 10 p. m. and 7 a. m. Country visits will be made at the rate of \$1 per

mile and up, depending upon the condition of the roads and delays occasioned thereby.

Dr. Charles L. Best reviewed the progress made in medicine by workers in various parts of the world and also mentioned the activities of the local society, especially the work of its red cross committee in sponsoring the collection of a fund for the flood sufferers in Ohio and Indiana, amounting to over \$1,000. A medical library with free circulation of current medical journals was undertaken by the society during the year which proved to many the value of such a system.

The following members were present: Drs. Stiver, Snyder, Stealey, Mease, Karcher, Rideout, E. H. Best, Torey, Rosenstiel, Poling, Hewetson, Peck, Burns, Charles L. Best, D. G. Smith, Harlan, Grant, Phillips, Leavy and Clark.

### WINNEBAGO COUNTY.

The Winnebago County Medical Society assembled at Nelson Hall, Rockford, February 10, 1914. Dr. E. E. Ochsner in the chair. Members present, twenty-three. The minutes of the previous meeting were approved. Dr. C. M. Ranseen presented a case of simple hypertrophied goitre in a girl aged 14 years, operated on two weeks previously. Dr. J. E. Allaben presented a case of bone grafting, removing a portion of one tibia and transplanting it as a bone plug into the hollow of the opposite fractured tibia. The doctor obtained good union and showed X-ray photos to illustrate the new bone growth about the plug. Dr. W. B. Helm reported a case of Caesarean section, followed by hysterectomy. The etiology of this procedure was the presence of a large fibroid in the posterior cervix. The convalescence and recovery of this patient were as good as any normal delivery. Dr. Thomas Kinley reported a case of measles in a lad aged 10 years which became complicated during convalescence by convulsions affecting the right side. He eventually recovered. All cases were generally discussed. The program proved decidedly interesting. It is the intention of the society to reduce the reading of papers and to devote more time to case reports.

The auditing committee reported the treasurer's accounts for 1913 to be accurately balanced. The president appointed Dr. Goembel to serve as censor for three years. Adjourned.

DR. C. M. RANSEEN, Secretary.

### OVERHEARD AT THE CLINIC.

Surgeon: What is the next case?

Assistant: Hung Far Lo.

Surgeon: Does he want an operation or only a suspensory?

Assistant: Hung Far Lo is the patient's name.

Surgeon: Oh, I thought that was what ailed him. Please distinguish between cases and patients.



**EVEN THE POISON WAS ADULTERATED.**

Four flies, which had made their way into a certain pantry, determined to have a feast. One flew to the sugar and ate heartily, but soon died, for the sugar was full of white lead. The second chose the flour diet, but he fared no better, for the flour was loaded with plaster of paris. The third sampled the syrup, but his six legs were presently raised in the air, for the syrup was colored with aniline dye. The fourth fly, seeing all of his friends dead, determined to end his life also, and drank deeply of the fly-poison which he found in a convenient saucer. He is still alive and in good health. That, too, was adulterated.—*Lippincott's*.

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**Personals**

Dr. Frank Smithies, Chicago, has been elected gastro-enterologist to the Augustana Hospital.

Dr. Howard E. Wharff, Edwardsville, fractured his right arm while cranking his automobile January 20.

Dr. Ben B. Griffith, newly appointed head of the Springfield Department of Health, assumed the duties of his office January 7.

Dr. Benjamin H. Breakstone, Chicago, has resigned as president of the medical staff of the Maimonides Kosher Hospital.

Dr. David Lieberthal has resigned as professor and head of the department of dermatology and syphilography of Bennett Medical College.

Dr. Clesson C. Atherton, physician to the Lincoln schools, has been appointed assistant superintendent of the Watertown State Hospital.

Dr. Howard L. Bye has been appointed assistant in the department of surgery in the University of Iowa.

Dr. C. Max Hawley, assistant superintendent of the Watertown State Hospital, has been transferred to a similar position at the Elgin State Hospital.

Dr. Wilson K. Dyer of the staff of the Watertown State Hospital has resigned to take up private practice.

Dr. Charles F. Sanborn has resigned as assistant warden of the Cook County Hospital and has been appointed superintendent of the Cincinnati Hospital.

Dr. Clesson C. Atherton, Elgin, physician to the Lincoln State School and Colony, has been appointed assistant superintendent of the Watertown State Hospital.

Dr. Samuel Amberg of the Otho S. A. Sprague Memorial Institute, Chicago, has been elected a

corresponding member of the Society of Internal Medicine and Pediatrics, Vienna.

Dr. Marcus Whiting, Peoria, who is about to retire from practice and live on a farm in Northern Wisconsin, was given a farewell dinner by the Peoria Medical Society, at which he was presented with a gold-headed cane.

Dr. Ralph T. Hinton, superintendent of the Elgin State Hospital, was appointed superintendent of the Peoria State Hospital February 9, succeeding Dr. Henry J. Gahagan, who has been transferred to the Elgin State Hospital.

Dr. Arthur R. Edwards, Chicago, has fully recovered from an operation for appendicitis and removal of the gall bladder and has resumed his practice.

Dr. E. M. Arnold has removed his office from Fifty-first street and Ashland avenue to 5544 S. Ashland avenue, Chicago. Phone, Prospect 5474.

Dr. Emory Hill announces the removal of his office to 122 S. Michigan boulevard. Phone, Central 7163.

Dr. B. R. Felts of Johnston City is said to be seriously sick.

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**News Notes**

—Plans for the dormitory addition to St. Joseph's Hospital, Elgin, have been completed, and work on the building will begin early next month. The cost of the addition will be approximately \$25,000.

—The La Grange Sanitarium and Hospital Company has been organized and incorporated, taking over the Thornton Villa Sanatorium. The new institution will be continued under the old management, as the La Grange Sanitarium and Hospital.

—At the twenty-fourth annual meeting of the Chicago Visiting Nurses' Association, January 22, it was reported that an average of 519 calls a day had been made by the 69 nurses on the staff. The number of patients visited was 35,523, on whom 185,757 calls were made.

—Christian Science has long since been repudiated by Christian churches and by scientists of every denomination. Now comes the Independent Order of B'nai B'rith and through its western jurisdiction refuses membership to Christian Scientists. What next?

—At the eighth annual meeting of the Chicago Tuberculosis Institute, January 29, the following officers were elected: President, Dr. Theodore B. Sachs; vice-presidents, Dr. Robert H. Babcock and Mr. George W. Perkins; treasurer, Mr. David R. Forgan; secretary, Mr. Sherman C. Kingsley; directors, Drs. William A. Evans, James Alexander Harvey, John Ritter and George W. Webster; Rev. P. J. O'Callaghan, Hon. Harry Olson, Hon. Julian W. Mack, Mr. G. R. Durgan, Mr. H. N. Foster, Mr. George W. Perkins.

The Chicago office of the Allan Line has received cable advice from the Liverpool office stating that the new turbine quadruple screw steamer *Alsatian*, 18,000 tons, sailed from Liverpool on February 14 for Halifax, N. S., her winter port. During the summer season she will sail from Montreal and Quebec to Liverpool.

The *Alsatian* has accommodation for 250 first-class passengers, 500 second and 1,000 third-class, and in addition carries a crew of 500.

The requirements of the British Board of Trade as regards safety have not simply been observed, but exceeded in every point of construction, material and design. These steamers have a length over all of 600 feet and a depth of 54 feet. They are fitted with quadruple screws and turbine engines. In point of interior design and equipment they are finest ships operating to Canada.

The *Alsatian* will carry a number of motor lifeboats, each fitted with 30 horse-power, four-cylinder engines, and are individually capable of taking eight to ten ordinary lifeboats in tow. These motor boats are fitted with wireless telegraphy and submarine signaling apparatus.

The *Calgarian*, a sister ship of the *Alsatian*, will make her maiden trip from Liverpool on March 28 and will be operated in the Liverpool service in conjunction with the already well-known turbine triple screw steamers, *Virginia* and *Victorian*.

—Action has been taken in Illinois for a campaign of education for the prevention of nervous and mental diseases, according to a bulletin issued by the State Charities Commission. In January, 1914, a committee composed of Dr. H. D. Singer, director of the State Psychopathic Institute; Dr. E. A. Foley of the Jacksonville

State Hospital, and A. L. Bowen, at the meeting of the State Hospitals Medical Association with the Chicago Neurological Society, presented a report on "A Practical Campaign for the Prevention of Nervous and Mental Disease." The plan of the committee did not consider sterilization, sex hygiene or eugenics as important remedies, but urged only those measures on which all authorities agree. The campaign of education to be conducted includes the use of space in newspapers for the publication of facts about the Illinois state hospitals; co-operation between the press and state charities; publication in popular magazines of articles written for the laity; compulsory psychiatry in all medical colleges, and psychopathic wards in general hospitals; a system of care for patients after they leave the hospitals, and a system of outpatient service to advise patients in dentention hospitals and homes. The report also urges a revision of the commitment laws, so that the insane may not be thrown into jails or held for trial like criminals.

## Public Health

### PUBLIC HEALTH.

—The Englewood Branch Society issued an unusually attractive *News-Letter* last month with supplements containing the cut reproduced in the proceedings and also a four-page collection of original songs sung at the banquet. The Englewood Branch surely knows how to pull off a fine entertainment.

—The *Bulletin* of the Montgomery County Medical Society for February continues its quotation from the "Principles of Medical Ethics," an editorial on the Anti-narcotic bill now before the U. S. Senate, and comments on the new addition to St. Francis Hospital at Litchfield, which increases the capacity of the hospital to 150 beds.

—The Chicago Department of Health has revised its rules and regulations governing the control of contagious diseases. From studies of the prevalence of these diseases and the relation of cases reported to deaths, the *Bulletin* some time since drew the conclusion that either the death rate was abnormally high or many cases were not reported. To encourage the prompt and complete reporting of cases, Health Commissioner Young has revised the rules in certain



respects so that the bread winners may avoid the necessity of leaving home during the period of quarantine, thus materially reducing the expense to the family. Where it is impossible to isolate the patient properly at home, arrangements will be made for hospitalization.

—The *Williamson County Physician* for February contains a write up of the January meeting, at which Dr. L. W. Bremmerman of Chicago gave an address. It also announced a discussion of "Malpractice" by Hon. D. T. Hartwell for the February meeting.

—Information has recently been received from various sources to the effect that, through agents and printed circulars, the statement is being circulated that the Bacteriol. physiolog. Institut (Piorkowski Laboratories), Berlin, Germany, has been licensed by the Treasury Department for the importation and sale in interstate traffic of "turtle tuberculin." These statements seem to emanate from so-called Piorkowski Laboratories, located, or represented as about to be located, in various cities in this country.

This statement is contrary to fact. After an inspection of the establishment by a representative of the Treasury Department and an examination of samples of the products at the Hygiene Laboratory of the Public Health Service, the Bacteriol. physiolog. Institut (Piorkowski Laboratories), Berlin, Germany, was refused a license by the Treasury Department for the importation and sale of their products in interstate traffic.

Under the act approved July 1, 1902, regulating the sale of viruses, serums, toxins, and analogous products in interstate traffic, such preparations applicable to the prevention and cure of diseases of man may be imported without license, provided they are not sold or intended for sale, but for scientific experiments.

The above mentioned act requires that each package of virus, serum, toxin, antitoxin or analogous product must be plainly marked with the proper name of the article contained therein, and the name, address, and license number of the manufacturer. Since this provision is strictly enforced, no difficulty should be experienced by anyone in determining whether a particular product has been propagated in a licensed establishment.

Persons or firms engaged in the sale of unlicensed products in interstate traffic are liable to a penalty consisting of a fine not exceeding \$500, imprisonment not exceeding one year, or both such fine and imprisonment in the discretion of the court.—*From U. S. Public Health Report, January 30, 1914.*

—Two Chicago judges decided cases of interest to physicians recently. Municipal Judge Fisher held that physicians treating minors must tell the parents the nature of the disease or else they cannot recover their fees. The case was that of Dr. M. O. Hoover, who sued for his fees for attending a child with diphtheria. The doctor said he kept the fact of its being diphtheria from the mother because he did not wish to frighten her.

The other suits by Dr. A. E. Kay against the estate of Elizabeth Madigan was for fourteen days' attendance, the bill amounting to \$401.50. Probate Judge Gregg held that the fee was excessive and cut it down to \$59. The estate left by decedent amounted to \$12,000.

—Asa E. Phillips, superintendent of sewerage for Washington, D. C., came to the defense of Chicago's plan at the federal hearing recently, with the assertion that sewage disposal without utilizing the drainage canal would cost the city \$121,000,000 for a plant and \$6,000,000 a year for maintenance. Whole territories would be depopulated by the odors and enormous damages would be assessed against the city. Moreover, he showed how the typhoid rate had been reduced from 65 to 10 per 100,000 population. (The *Bulletin* of the department of health has shown that the cost of the drainage canal has been more than saved by the reduction in sickness and death since the canal was opened.)

—Some hotel man in Omaha has been waging a campaign against the use of glass finger-bowls in hotels and restaurants and advocates the use of paper bowls in a metal holder. Idaho, through its state pure food commission, now holds that dining cars as well as hotels and restaurants cannot use finger-bowls. This strikes the *Inter Ocean* as extreme and it suggests that the bowls, if made of plain smooth glass, are as easily kept clean as other utensils and that the effort should be to enforce cleanliness.

### HIGH AND LOW.

Naturally the clergyman was annoyed when the waiter asked if the luncheon party would be high church or low church. "What on earth has that to do with you?" he demanded. "A great deal, sir," explained the waiter; "if your friends are high church I must provide more wine; if low church, more wittles."—*Cardiff Western Mail*.

### THE HUMAN TOUCH.

Manager—Your play seems to lack the human touch.

Playwright—You are mistaken, sir. My hero borrows money from his friends in almost every act.—*Boston Transcript*.

### Marriage

JOHN CLARENCE LINDSAY, M. D., Chicago, to Miss Mabel Violet Baldwin of Bloomington, Ill., January 20.

CLARENCE C. HOLMAN, M. D., to Miss Beulah Babb Crews, both of Effingham, Ill., January 17.

THOMAS A. WOODRUFF, M. D., to Mrs. Carrie M. Ogden, both of Chicago, at New London, Conn., February 7.

GEORGE FREDERICK DICK, M. D., Chicago, to Gladys Rowena Henry, M. D., of Evanston, January 27.

### Obituary

DR. CHARLES R. TRUE, for twenty-seven years a resident of Kankakee, passed away at his home in February, after an illness of long standing. About three years ago he suffered a paralytic stroke. Dr. True was 71 years old and is survived by two daughters, Mrs. Agnes Miller and Mrs. Fred Hackett.

Dr. True was born Aug. 28, 1843, at South Bend, Ind. During the Civil War he enlisted in the army and was a member of Company K. First Illinois Cavalry. After leaving the service he took up the study of medicine, and was graduated from Rush Medical College in 1865.

Funeral services were held at the First Presbyterian church, and were in charge of Whipple Post, No. 414, G. A. R., of which he was a member.

Dr. True's death will remove a man who was universally loved and respected. In a quiet and unostentatious way he was constantly doing deeds

of kindness among the unfortunates who sought his aid and the benefit of his skill. His death brings a sincere sorrow that so useful a life has forever closed.

### Deaths

JAMES P. BUCK, M. D., Jefferson Medical College, 1879; formerly a member of the Illinois State Medical Society; a surgeon in the Servian army during the war with Bulgaria in 1883; died at his home in Chicago, January 17, aged 57.

ALBERT A. FITTS, M. D., Howard University, Washington, D. C., 1878, of Batavia, Ill., a Fellow of the American Medical Association, local surgeon for the Chicago and Northwestern Railway Company, died in St. Petersburg, Fla., January 5, aged 60.

ORMOND ERLY HUTCHINS, M. D., Keokuk, Medical College, College of Physicians and Surgeons, 1906, died at his home in Warsaw, Ill., January 7, from pneumonia, aged 28.

FRANK JOSEPH LAIBE, M. D., Rush Medical College, 1894, a member of the Illinois State Medical Society, and for twenty years resident surgeon at the St. Mary of Nazareth Hospital, Chicago, died in that institution February 8, from pneumonia, aged 48.

CHARLES M. LYON (license, Illinois, 1877), a member of the Illinois State Medical Society, a veteran of the Civil War, for three terms a member of the State Legislature, owner and editor of the *Hamilton County Leader*, died at his home in McLeansboro, January 25, aged 70.

WESLEY PARK, M. D., Northwestern University Medical School, Chicago, 1867; Jefferson Medical College, 1873; formerly president of the Park Bank at Fieldon, Ill., died at his home in Grafton, Ill., January 18, aged 80.

WILLIAM T. PULLIAM, M. D., Medical College of Indiana, Indianapolis, 1882, of Tuscola, Ill., died in Tolono, Ill., November 30, aged 63.

CHARLES WHITE, M. D., Rush Medical College, 1864, for 57 years a practitioner of Chicago, a member of the Illinois State Medical Society, died at his home, January 21, aged 82.

ROCKWOOD SAGER, M.D., Rush Medical College, 1879; a member of the Illinois State Medi-



cal Society; for thirty-four years a practitioner of Rockford; died at his home in that city, December 2, from brain tumor, aged 57. At a meeting of the Winnebago County Medical Society, December 4, resolutions were unanimously adopted expressing regret at the death of Dr. Sager and sympathy for his family.

TITUS E. YERKES, M.D., Rush Medical College, 1864; a Fellow of the American Medical Association; died at his home in Upper Alton, Ill., November 27, aged 77.

WILLIAM WRIGHT WILLIAMS, M.D., Rush Medical College, 1871; Bellevue Hospital Medical College, 1874; said to have been the oldest practitioner of Mattoon, Ill.; died in the University Hospital, Chicago, November 20, eighteen days after an operation for removal of the prostate gland, aged 66.

CHARLES A. PUSHECK, M. D., Hahnemann Medical College, Chicago, 1880; died at his home in that city, January 1, aged 54.

LEVI SHOEMAKER, M. D., Eclectic Medical Institute, Cincinnati, 1887; died at his home in Wyand, Ill., December 18, aged 59.

CHARLES M. VERTREES (license, Illinois State Board of Health, 1878); died at his home in Jacksonville, December 22, aged 76.

FREDERICK C. HAGEMAN, M. D., Rush Medical College, 1870; formerly a practitioner of Chicago; died in an infirmary in Mobile, Ala., December 14, aged 69.

ADOLPH E. LINDER, M. D., American Medical College, Eclectic, St. Louis, 1897; died at his home in East St. Louis, December 27, from rheumatic endocarditis, aged 42.

HENRY T. DUFFIELD, M. D., Washington University, St. Louis, 1882; of Pittsfield, Ill.; a Fellow the American Medical Association; died in St. Louis, December 15, aged 60.

HARVEY LE ROY SMITH, PH. G., M. D., College of Physicians and Surgeons, Chicago, 1896; died suddenly at his home in Chicago, January 7, from heart disease, aged 41.

GEORGE W. VAN ZANDT, M. D., Rush Medical College, 1865; for several years a practitioner of Charlotte, Iowa, and later a banker of Chicago; died at his home in the latter city, December 21, aged 80.

JOHANNES G. OOSTERBECK, M. D., Rush Medical College, 1904; formerly of Hysham, Mont.; a member of the staff of Peoria State Hospital for five years; died at the home of his mother in Chicago, January 8, aged 37.

GEORGE F. PARSONS, M. D., College of Physicians and Surgeons, Chicago, 1886; for many years a practitioner of Chicago; died at the home of his daughter in Peoria, Ill., December 29, from cerebral hemorrhage.

JAMES L. REILLY, M. D., Chicago Medical College, 1889; a trustee of the Chicago Industrial School for Girls; formerly a member of the American Medical Association; died in Mercy Hospital, Chicago, January 15, from pneumonia, aged 53.

THOMAS LYMAN PERKINS, M. D., Harvard Medical School, 1880; formerly surgeon to the Salem, Mass., Hospital; later a practitioner of Washington, D. C., and Springfield, Ill.; died in his apartment in the latter city, December 26, aged 62.

SAMUEL PERKEY, M. D., University of Michigan, Ann Arbor, 1862; formerly a practitioner of Eaton County, Michigan; for twenty-five years a member of the medical profession in Chicago; died at his home in Los Angeles, Cal., December 29, aged 73.

FRANCIS REDER (license, Illinois, 1877); a practitioner since 1852; for many years a resident of St. Louis, but for the last few months living on a farm at New Athens, Ill.; died in the Deaconess Hospital, St. Louis, December 28, from chronic interstitial nephritis, aged 84.

WILLIAM BERNHARDT FEHRING, M. D., Rush Medical College, 1903; assistant professor of obstetrics and gynecology in his Alma Mater; a member of the staff of the Presbyterian Hospital; a Fellow of the American Medical Association; died at his home in Chicago, January 10, from diabetes, aged 39.

HENRY BANGA, M. D., University of Basel, Switzerland, 1875; a Fellow of the American Medical Association; well known gynecologist of Chicago; professor of gynecology in the Chicago Policlinic; dean of the attending staff of Michael Reese Hospital; died while attending a patient in Chicago, December 24, from cerebral hemorrhage, aged 66.

## NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1913, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-official Remedies":

**Digipoten.**—Digipoten consists of the digitalis glucosides in soluble form, diluted with milk sugar to give it a strength equal to that of digitalis of good quality. Digipoten is adjusted by the frog and guinea pig methods to have a strength of 1,400 heart tonic units and by chemical assay to contain from 0.3 to 0.4 per cent digitoxin. The action, uses and dosage of digipoten are the same as those of digitalis. It is sold in the form of a powder, which is soluble in water, and as Digipoten Tablets, each containing 0.03 gm. The Abbott Alkaloidal Co., Chicago, Ill. (Jour. A. M. A., Dec. 6, 1913, p. 2069).

**Tannigen Tablets.**—Each tablet contains tannigen (see N. N. R., 1913) 0.5 gm. The Bayer Co., New York City (Jour., Dec. 6, 1913, p. 2069).

**Bordet-Gengou Bacillus Vaccine for Whooping-Cough Prophylaxis.**—Greeley Laboratories, Inc., New York.

**Bordet-Gengou Bacillus Vaccine for Whooping-Cough Therapy.**—This vaccine is believed to be of service in the prevention and also in the treatment of whooping-cough. Greeley Laboratories, Inc., New York City (Jour. A. M. A., Dec. 13, 1913, p. 2158).

**Culture of Bacillus Bulgaricus, Fairchild.**—A liquid culture of the Bacillus Bulgaricus. The culture is sold in packages containing 6 and 30 vials, respectively. The culture is used internally in the treatment of intestinal putrefactive diseases and as an application to body cavities in the treatment of suppurative conditions. Fairchild Bros. & Foster, New York (Jour. A. M. A., Dec. 13, 1913, p. 2158).

**Slee's Antimeningitis Serum.**—For description of Antimeningococcus Serum see N. N. R., 1913, p. 215. The Abbott Alkaloidal Co., Chicago.

**Slee's Antistreptococcic Serum.**—For description of Antistreptococcus Serum see N. N. R., 1913, p. 216. The Abbott Alkaloidal Co., Chicago (Jour. A. M. A., Dec. 20, 1913, p. 2242).

Since December 1 the following action has been taken:

## ARTICLES ACCEPTED FOR N. N. R.:

The following articles have been accepted for inclusion with New and Nonofficial Remedies:

The Bayer Company, Inc.

Elarson.

Elarson Tablets.

Hynson, Westcott & Co.

Sterile Ampoules of Mercury Salicylate.

Salvarsan—606—Ehrlich, Suspension Ampoules.

Neosalvarsan, Ehrlich, Suspension in Ampoules.

Mallinckrodt Chemical Works.

Sodium Acid Phosphate.

Parke, Davis & Co.

Emetine Hydrochloride Ampoules.

Powers-Weightman-Rosengarten Co.

Sodium Acid Phosphate.

Radium Chemical Co.

Radium Chloride.

Radium Sulphate.

## CHANGE OF TITLE:

Fairchild Bros. & Foster.

The manufacturer having changed the name Essence of Pepsin, Fairchild to Pepsencia, the Council directed that the corresponding change of title be made in New and Nonofficial Remedies.

## ARTICLES OMITTED FROM N. N. R.:

Armour & Co.

Having been withdrawn from the market the Council voted that Glycerole Trypsin, Armour, be omitted from New and Nonofficial Remedies.

Pitman-Myers Co.

Having voted not to accept papain for inclusion with New and Nonofficial Remedies, the Council voted to omit the Aromatic Cordial, P. M. Co. from the appendix to New and Nonofficial Remedies.

## Book Notices

**INFECTIONS OF THE HAND. A GUIDE TO THE SURGICAL TREATMENT OF ACUTE AND CHRONIC SUPPURATIVE PROCESSES IN THE FINGERS, HAND AND FOREARM.** By Allen B. Kanavel, M.D., Assistant Professor of Surgery, Northwestern University Medical School, Chicago. New (2nd) edition, thoroughly revised. Octavo, 463 pages, with 147 illustrations. Cloth, \$3.75, net. Lea & Febiger, Philadelphia and New York, 1914.

This second edition is an exhaustive treatise of infections occurring in the hand and forearm. The author has apparently not been satisfied with merely getting these hand infections well, but has strenuously endeavored to get them well with the least possible defect remaining. This point is too often overlooked by the busy surgeon.

The work studies extensively the anatomy as it relates to the pathology. In studying its pages one is reminded that any one may amputate a phalanx finger or hand, but there is skill required to treat infections of the extremities and retain the maximum efficiency of that member.

The book should be read by anyone who is doing factory work or other forms of emergency surgery.

**DIAGNOSIS IN THE OFFICE AND AT THE BEDSIDE.** The Use of Symptoms and Physical Signs in the Diagnosis of Diseases. By Hobart Amory Hare, M.D., Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College of



Philadelphia. New (7th) edition, thoroughly revised and rewritten. Octavo, 547 pages, with 164 engravings and 10 full-page plates. Cloth, \$4.00 net. Lea & Febiger, Philadelphia and New York, 1914.

A seventh edition from Hare needs no recommendation. Perhaps the largest number of errors in medicine occur in diagnosis—or in the absence of it. The laboratory, in later years, has been detracting from diagnosis by symptoms, and this is to be regretted.

This work of Dr. Hare studies only the signs and symptomatology of disease. It is a work intended to help the physician make an office or bedside diagnosis, and it fulfills its purpose admirably. Every beginner of the practice of medicine should read the introduction to this volume.

The mechanical make-up is good. We recommend this book to the profession.

**THE HOME NURSE.** By E. B. Lowry, M.D., author of "Herself," "Confidences," "Truths," etc., Chicago. Forbes & Company, 1914. Price, \$1.00.

This little book, as the title implies, is primarily intended for the home where the care of the patient devolves upon the members of the family.

The first chapter covers the preliminaries, thus preparing the nurse for her duties, and also gives many helpful suggestions as to her decorum.

The following chapters discuss the various diseases from inception to convalescence, and give information and instruction as to the use of equipment pertinent to the case in question.

A most important chapter is the one on Accidents and Emergencies. It gives first essentials in an emergency, or until a physician can be summoned, and as there is an alphabetical as well as a classified index, the various subjects may be readily found.

**HISTORY OF MEDICINE**, with Medical Chronology, Bibliographic Data, and Test Questions. By Fielding H. Garrison, A.B., M.D., Principal Assistant Librarian, Surgeon General's Office, Washington, D. C., Editor of the "Index Medicus." Octavo of 763 pages, many portraits. W. B. Saunders Company, Philadelphia and London, 1913. Cloth, \$6.00, net; Half Morocco, \$7.50, net.

Perhaps as interesting as is the study of medicine, the history of medicine is still more interesting. Who does not become entranced in a reading of Early Egyptian Surgery, or Grecian Medicine—even the Oriental Therapeutists keep the reader entertained.

The author covers practically all the eras of medicine, in a very brief way, down to the present day. The book will be read by anyone who chooses to pick it up, and it is the book you want for a long winter's evening.

**PATHOLOGY, GENERAL AND SPECIAL.** A Manual for Students and Practitioners. By John Stenhouse, M.A., B.Sc. (Edin.), M.B. (Tor.), formerly dem-

onstrator of Pathology, University of Toronto, Toronto, Canada. Second edition, revised and enlarged; including selected list of State Board Examination Questions. 12mo, 278 pages, illustrated. Cloth, \$1 net. Lea & Febiger, publishers, Philadelphia and New York, 1913.

This little volume is intended for a hasty review of pathology and to keep the practitioner in touch with the new. There is a list of questions at the end of the chapter which bear upon the important points reviewed, and thus the student has a quiz course arranged.

The book, of course, is not intended to take the place of a complete treatise on pathology, but rather is a review of a complete treatise, and this purpose is admirably fulfilled. It is a convenient work for either the student or the practitioner.

**ANATOMY AND PHYSIOLOGY—A TEXTBOOK FOR NURSES.**

By John Forsyth Little, M. D., Assistant Demonstrator of Anatomy, Jefferson Medical College, Philadelphia. 12mo., 483 pages, with 149 engravings and 4 plates. Cloth, \$1.75 net. The Nurses' Textbook Series. Lea & Febiger, publishers, Philadelphia and New York, 1914.

This little volume is one of the best books for nurses we have seen, comprising as it does the two general subjects.

The difficult task in teaching either of these subjects to nurses is to know how much of the subject to take up. The author has realized this difficulty and seems to have solved the matter in a practical manner.

We recommend the work to the nursing profession.

**PRACTICAL SANITATION.** A Handbook for Health Officers and Practitioners of Medicine. By Fletcher Gardner, M.D., Captain Medical Corps, Indiana National Guard; First Lieutenant Medical Reserve Corps, United States Army; Health Commissioner of Monroe County, Indiana, and James Persons Sumonds, B.A., M.D., Professor of Preventive Medicine and Bacteriology, Medical Department, University of Texas; Lately Superintendent Indiana State Laboratory of Hygiene. Illustrated. St. Louis, C. V. Mosby Company, 1914. Price, \$4.

A book intended rather for the public health officers. Its chapter on History and Method of Quarantine is especially interesting and instructive. The chapter on School Inspection is good, as are also those on shops, factories and penal institutions.

Several chapters on the management of campaigns for the extermination of rats, flies, mosquitoes, bed-bugs and other disease carrying vermin are of value.

The book is valuable to all who are doing welfare work, school and visiting nurses, or any one working for the betterment of hygienic conditions.

**DIAGNOSTIC METHODS.** A Guide for History Taking, Making of Routine Physical Examinations and the Usual Laboratory Tests Necessary for Students in

Clinical Pathology, Hospital Internes and Practicing Physicians. By Herbert Thomas Brooks, A.B., M.D., Professor of Pathology, University of Tennessee, College of Medicine, Memphis, Tennessee. Second Edition, Revised and Rewritten. St. Louis, C. V. Mosby Company, 1914. Price, \$1.

An excellent laboratory guide for the practitioner who needs a brief review of his laboratory technique. It is equally good as a working guide to the student. The study of its first pages will benefit the student or interne in taking histories.

**THE INTERVERTEBRAL FORAMEN.** An Atlas and Histologic Description of an Intervertebral Foramen and Its Adjacent Parts. By Harold Swanberg, Member American Association for the Advancement of Science, with Introductory Note by Prof. Harris E. Santee. Illustrated by 16 full-page plates, none of which have ever before appeared in print. Chicago Scientific Publishing Co., southwest corner Grace and Osgood streets, Chicago, Illinois.

This little volume is devoted to only one part of the anatomy, but a very important part. It is this portion of the anatomy that gives the basis for a number of medical cults.

The author has not given you his views, but has given you histology and anatomy. The plates and photomicrographs are exceptionally good and he has been generous with them.

**THE PRACTICAL MEDICINE SERIES.** Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Charles L. Mix, A.M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume IX. **SKIN AND VENEREAL DISEASES, MISCELLANEOUS TOPICS.** Edited by W. L. Baum, M.D. Series 1913. Chicago, The Year Book Publishers, 327 South La Salle street.

**THE PRACTICAL MEDICINE SERIES.** Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Charles L. Mix, A.M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume X. **NERVOUS AND MENTAL DISEASES.** Edited by Hugh T. Patrick, M.D., Professor of Neurology in the Chicago Polyclinic, Clinical Professor of Nervous Diseases in the Northwestern University Medical School. Peter Bassoe, M.D., Assistant Professor Nervous and Mental Diseases, Rush Medical College. Series 1913. Chicago, The Year Book Publishers, 327 South La Salle street.

These volumes, from the press of the Year Book Publishers, again bring up to date the literature of the day on these subjects. They give the reader a good synopsis of that which has come in medicine during the year.

Price of either volume, \$1.35. Ten volumes, \$10.

W. B. SAUNDERS COMPANY, Publishers of Philadelphia and London, have just issued a new eighty-eight page illustrated catalogue of their publications. As great care has evidently been taken in its production as in the manufacture of their books. It is an extremely handsome catalogue. It is a descriptive catalogue, telling you what you will find in their books and showing you by specimen cuts the type of illustrations used. It describes some 250 books, including 30 new books and new editions. A postal sent to W. B. Saunders Company, Philadelphia, will bring you a copy—and you should have one.

**DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS.** William J. Harris, Director. "Mortality Statistics, 1911," Twelfth Annual Report. Prepared under the supervision of Cressy L. Wilbur, M.D., Chief Statistician for Vital Statistics. Department of Commerce, United States of America. Washington, Government Printing Office, 1913.

**BETTERMENT OF LIFE INSURANCE SERVICE.** Proceedings of the Seventh Annual Meeting of The Association of Life Insurance Presidents, held in the Hotel Astor, New York, N. Y., December 11 and 12, 1913.

**WOMEN AND MORALITY.** By a Mother. Men and Morals, by a Father. The Sexes Again, by C. Gasquoine Hartley (Mrs. Walter M. Gallichan). Introduction by Wallace Rice. 1914, The Laurentian Publishers, Steinway Hall, Chicago.

#### BOOKS RECEIVED.

**E. MERCK'S ANNUAL REPORT** of recent advances in Pharmaceutical Chemistry and Therapeutics. Vol. XXVI.

**BULLETIN No. 90—HYGIENIC LABORATORY.**

Report from the United States Public Health Service on Epidemiologic Studies of Acute Anterior Poliomyelitis.

- I. Poliomyelitis in Iowa—1910.
- II. Poliomyelitis in Cincinnati, Ohio—1911.
- III. Poliomyelitis in Buffalo and Batavia, N. Y.

Property values are affected by neighborhood cleanliness. Dirt depreciates values.

Many a house with a swell front has a swill back. Take a look at the back yard and the alley.

Score another triumph for preventive medicine! Typhoid fever—"the Great American Curse"—has been dealt its death blow. The complete eradication of this disease is now regarded as a possibility of the near future.

From Bulletin, Chicago Department of Health.



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXV

CHICAGO, ILL., APRIL, 1914

No. 4

## Original Articles

### CAESARIAN SECTION, WITH REPORT OF FOURTEEN CASES FROM THE SERV- ICES OF DRS. PARKES AND DANFORTH.\*

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The operation of Caesarian section is not a new procedure. Without considering the question as to whether Caesar was brought into the world in this manner, we may say that the earliest recorded operation was about 1500, when Nufer, a swine gelder of Switzerland, performed the operation on his own wife, who is supposed to have recovered. The first generally accepted case occurred in Wittenberg in 1610. The procedure was carried out a number of times during the sixteenth and seventeenth centuries, but was condemned severely by Mauriceau. The mortality was extreme and continued so until recent years. Taruier said that so far as he knew, no successful case had been done in Europe up to his time. Kayser of Copenhagen found a mortality of 62 per cent. for the eighty years preceding 1844. The uterus was not sutured, because the suture ends could not be left long, as was the custom at that time in order that they might be drawn out later, and in consequence many women died from hemorrhage into the abdomen or from peritonitis from infection from the uterine cavity. Sutures were not used till Sanger recommended it in 1882. In 1877 Porro of Pavia had suggested that the uterus be removed in order to avoid the danger from hemorrhage and infection from the lochia, but Sanger's procedure rendered this unnecessary, except in the presence of infection antedating the operation. The fact that Felkin in 1879 saw the operation done by the African

natives in Uganda might indicate that it had been a custom among them or other uncivilized races from an early period, especially as these savages appeared to have a well-developed technic.

*Indications.* These ought to be divided into absolute and relative. Contracted pelvis with a conjugata vera of 6 or 6.5 C. M. will give an absolute indication, as will the presence of an enormous child in a case in which the pelvis is nearer normal than the above figures would indicate. The relative indication, as Dr. De Lee says, will exist when the operator decides that the woman can be more safely delivered, both as regards the maternal and the fetal danger, by the abdominal route than by the vaginal. Williams says that the upper limit of the relative indication in contracted pelvis should be 7.5 centimeters.

Placenta previa as an indication has been discussed considerably lately. In cases of central placenta previa it is now advocated by E. P. Davis of Philadelphia, A. B. Davis of New York, Newell of Boston, Markoe, Fry, McPherson, Laphorn Smith, Kerr, P. Dudley, Sellheim, Bar and Recasens of Madrid. Williams and Edgar accord it qualified approval. Of course, all the advantages of a proper operating environment are to be presupposed. As to eclampsia, we find that section was advocated by Halbertsma in 1889, but his recommendation did not meet with general approval. While the delivery by one of the vaginal methods is at present favored by the majority of operators, Dr. De Lee says that when the cervix is long and rigid, the head high or large, the abdominal operation may be done. Monroe Kerr favors the abdominal operation over the vaginal in eclampsia.

Tumors of the uterus or adnexae may offer an indication, as in our first case, in which the operation was done for obstruction caused by a

\*Read before the Evanston Branch, Chicago Medical Society, April 24, 1913.

large ovarian cyst. Exostoses of the bony pelvis and stenoses of the cervix and vagina occasionally demand it.

Abruptio placentae is a proper indication, if the woman is in a properly conducted obstetrical hospital. De Lee has done it for contraction caused by vaginal scars, for healed vesico-uterine fistula and for vagino-fixation of the uterus.

As to the conditions under which the operation should be done, it cannot be too strongly emphasized that the operation should always be considered as a primary procedure. It is by no means to be done after forceps have been tried and have failed, or any other means of vaginal delivery has been attempted. Any suspicion of infection should cause one to rule it out at once, or, if abdominal delivery is absolutely necessary, to substitute the Porro operation. Many vaginal examinations constitute a danger which cannot be too greatly magnified. Several of our cases had none at all. The earlier in labor it is done the better. It should never be done except in a rigidly aseptic operating room. Plenty of assistance should be at hand. If the above conditions cannot be met, some form of vaginal delivery should be considered. Lesions of the vagina and perineum of a septic nature and gonorrheal infections are a bar. It is better to operate before the membranes are ruptured.

*Prognosis and Mortality.* We have already alluded to the terrific mortality which characterized this operation until comparatively recent years. Of late the development of aseptic technic has caused the more recent reports to show a remarkable decrease in the death rate. Routh, writing in the *Journal of Obstetrics and Gynecology of the British Empire* for January, 1911, reports the mortality of a series of 1,282 cases in the United Kingdom by 100 different operators to be 2.9 per cent. This writer, in the same article, quotes Playfair's statement made in 1866, to the effect that the mortality of Caesarian section at that time was 89 per cent. At this time Sir Spencer Wells' mortality after ovariectomy was 28 per cent. Many series of cases are to be found running up to thirty or more without a death. Of course, there are occasionally cases in which some form of rapid delivery must be undertaken, and in which whatever mode is chosen is likely to be followed by death. In the presence of a dead child, however, craniotomy

should be done in preference to section. Asa B. Davis of the New York Lying-In Hospital reports, in the *American Journal of Obstetrics* for July, 1912, 134 cases of Caesarian section with 17 maternal deaths. This is a high mortality, but it is caused by the fact that he operated upon some cases in which the mother was dying, and upon some which were infected before they came under his care, either by careless examinations or previous attempts at delivery. He believes that a 4 per cent. mortality in simple, uncomplicated cases of section done at the time of election would be high. He had 9 still-born children and 15 which died before discharge from the hospital. We believe that as the indications for the operation are more generally understood and especially as its contraindications are appreciated by physician generally, it will be possible to have the cases come to operation at a more favorable time with a consequent further decrease in mortality.

*Technic.* The abdomen is shaved, washed with green soap and hot water, wiped with alcohol and painted with iodine, which is afterwards partially removed with alcohol. This is always done previous to the administration of the anesthetic. We believe that it is highly important to shorten the time of the anesthetic as much as possible, both on the mother's and the babe's account. A long anesthetic may cause the babe to be delivered in a condition of anesthesia, which may require the application of measures for resuscitation. It may also logically be supposed to influence the uterine muscle and thereby predispose to hemorrhage. We have until recently used a rather long incision to the left of the median line in order to miss the umbilicus, delivering the uterus upon the abdominal wall. After its delivery, two moist towels may be tucked under the fundus from either side, the broad ligaments may be grasped by a second assistant and the uterus rapidly opened in the median line. The opening in the uterus may be lengthened by hooking the fingers in the wound and tearing if necessary. If the placenta is in front in the median line, it is pushed aside, the membranes ruptured or cut and the babe rapidly delivered. The cord is cut between two clamps and the babe handed to an assistant or nurse. We have always had prepared pans of hot and cold water, tracheal catheter, and a warm basket for the reception of the



babe. I do not recall that any active measures for the resuscitation of the infant have been needed in any of our cases. The time from the initial incision to the delivery of the babe is usually about ninety seconds and rarely over two minutes. The placenta is then removed, the membranes being peeled off cleanly, a hot pack is inserted in the uterus and allowed to remain for a moment or two, when the uterus usually promptly contracts. An interrupted suture is then placed in the uterine wall at intervals of about one-half inch, taking in the thickness of the wall except the mucosa and the peritoneum. We put these in from both ends at once, one suturing from the upper and one from the lower end. This enables us to complete this part of the work much more rapidly than it could otherwise be done. This line of sutures is interrupted in order that, when the uterus contracts it may not be loosened and permit secondary hemorrhage. The interrupted suture is made use of by the majority of operators, although De Lee uses a running suture for this row. We then place a running suture over this row, taking in the peritoneum and a small amount of the muscular wall. This makes a smooth surface, which is not likely to cause adhesions. The uterus is then replaced in the abdomen and the wall closed by a tier suture. The first row takes in the peritoneum, the second the fascia and the third the skin. We have recently in a few cases adopted a suggestion of Dr. De Lee's, that the fascial row be divided into parts, that is, that the suture be tied in one or two places during its course and a new one commenced, in order that the length of the wound may be bisected or trisected. This allows only a part of the wound to open if a stitch should give way. This accident may happen should severe vomiting occur. The skin is closed with interrupted silk worm gut sutures. A tight binder, preferably of the scultetus type, is applied and the woman put to bed. The after care is that of any laparotomy, but we would say that we have found that these cases are more prone to tympanites than the average celiotomy.

In our last four cases we have used an incision about four or five inches long, two-thirds above and one-third below the umbilicus, opening the uterus in situ. After delivery of the babe the uterus is delivered upon the abdominal wall, the placenta removed and the operation finished as

above described. This has the advantage of a shorter wound with the lessened danger of breaking, and also, after recovery, the abdominal scar and the uterine one are at completely different levels, which prevents the formation of adhesions between them.

As to assistants, we always try to have, in addition to the operator and two assistants, some one to attend the babe. Two clean nurses are always in readiness, and the regular anesthetist of the Evanston Hospital has, with one or two exceptions, given the anesthetics. We have always used ether.

*Complications.* In one case severe vomiting broke a suture near the upper angle of the wound and caused a slight bleeding, which needed nothing further than a pack inserted in the oozing area. In another case in which the section was done for eclampsia convulsions subsequent to the operation caused a stitch to break and cause a severe bleeding which necessitated the opening of the wound in order that it might be tied. This woman also received a transfusion of blood from her husband subsequent to the hemorrhage and recovered as did her babe. Since these occurrences we have used the stitch in the fascial layer divided as described above.

*Comparison with Other Operations.* We believe that a Caesarian section done under proper conditions and with a proper technic is accompanied by less shock to the mother than a difficult forceps delivery. In contracted pelvis we would prefer it even in the moderately contracted cases to hebstosteotomy and high forceps. We recognize that there is a difference of opinion here, but we can only state our own views. We note that Monroe Kerr of Glasgow takes the position that hebstosteotomy should be reserved for those cases in which the operator, having believed that high forceps could be easily carried out and finding that his judgment was faulty, may have it as a reserve operation upon which to fall back. He does not favor it as a primary operation. Certainly the operative shock to both mother and child is greater in a prolonged forceps than in a properly performed celio-hysterotomy. Reuben Peterson believes that the time is coming when the operation of high forceps will no longer be taught in the schools of medicine. The English gynecologists and obstetricians certainly seem to favor the abdominal over the vaginal route in moderate de-

grees of contraction and even in eclampsia. Monroe Kerr says that he believes that the abdominal route is preferable to the vaginal route when rapid delivery is necessary in the early months of pregnancy. C. Hubert Roberts of London believes that pubiotomy and its modifications have yet to prove their superiority over ecliotomy.

Reuben Peterson has recently, in the *Transactions of the Southern Surgical and Gynecological Association*, published a series of 425 cases of eclampsia treated by Caesarian section. In this series, including the cases operated upon prior to the aseptic era the maternal mortality was 36.9 per cent. In 245 cases in which there was no sepsis preceding the section, the mortality was 24 per cent. In 50 of his cases in which some other form of operative procedure had preceded the section, the mortality was 48 per cent. As to the fetus, the mortality in 217 cases since 1900 in which the fetal statistics could be studied was 5.5 per cent. In 132 cases in which the section was done after one to five convulsions, the fetal mortality was 3.7 per cent. Certainly in the light of these figures the treatment of eclampsia by abdominal section is a procedure which merits consideration and cannot be passed over by the mere statement that the operation is unjustified.

Rongy, in a recent article in the *International Journal of Surgery*, places himself on record to the effect that in cases of moderate contraction of the pelvis early Caesarian section is the ideal treatment. He believes that pubiotomy should be reserved for those cases in which other forms of delivery have been tried previously and which in consequence are not suitable for abdominal section. He makes the point, which is certainly not unjustified, that pubiotomy is by no means a minor operation, nor one to be lightly done by one not trained in gynecologic surgery. Hemorrhage may be severe and injuries to the bladder, urethra and other soft parts may occur. Communicating vaginal tears have been known to happen. He believes that pubiotomy and section each has its definite field and that the two operators do not compete with each other.

E. P. Davis of Philadelphia reports seven cases of placenta previa treated by Caesarian. The mothers all recovered, but four of the children died. This seems a higher mortality than is the rule in this condition when Caesarian is done early. This author suggests that placenta

previa should be considered as an ectopic pregnancy, inasmuch as the ovum is attached in an atypical place. In placenta previa the vagina should not be previously tamponed if it can be avoided. The tampon certainly adds a measure of danger from infection. Even though the uterine cavity is not invaded by the pack, the cervical lymphatics may take up septic material introduced within it at the time the pack is put in place.

Caesarian section at present occupies a prominent place in current obstetrical and gynecologic publications. The number of cases reported and the increasingly good statistics would lead one to believe that the indications are to be still further broadened. Indeed in a recent discussion before the Royal Society of Medicine of England the president of the body, Amand Routh, himself an eminent obstetrician, suggested the propriety of performing section for prolapsed cord, provided the case were a clean one, the passages undilated and the child alive, even if there were no pelvic contraction.

We believe that we have attained better results by this method than we would have in the same case by any other form of operative treatment. We prefer it to a long and difficult high forceps delivery, or to pubiotomy, provided, of course, that the case is absolutely clean and that no form of delivery shall have been attempted earlier. It seem to us that the operative shock to the mother is greater in the forceps extraction, the damage to her soft parts much greater and the amount of anesthetic much greater than when a section is done. It has seemed to us also that the recovery of the mother is more complete than it is apt to be from the high forceps with its terrific attendant trauma. As to the child, there can be no question that its chances are better. It is not subjected to trauma, which in a difficult forceps case sometimes causes it to suffer considerable harm, and the mortality is less. In placenta previa the fetal mortality is, of course, tremendously less.

We do not believe, however, that the operation is one which should ever be attempted unless by one who has had opportunity for the acquisition of experience in rapid operative manipulation. Any tendency for its performance by those not so trained will inevitably be accompanied by increase in mortality. The same may be said of



pubiotomy. As experience grows it will probably be made use of in conditions in which today we do not consider it, as it is today done where ten years ago it would not have been thought of. But we would, in spite of the possibility of being accused of repetition, earnestly counsel those who may see cases in which this operation may be a possibility, to refrain from vaginal manipulations as far as possible, particularly the application of forceps. The pack and bag should not be used if it may be avoided and the membranes should not be ruptured.

*Case Reports.*—1. Primipara, aged 39 years. Large ovarian cyst over pelvic inlet. Cyst about size of coconut. Section with removal of cyst. Mother and child recovered.

2. Aged 26 years. II.—para. Previous labor normal. Placenta previa centralis. Section with recovery of mother and babe.

3. I.—para. Aged 24 years. Rigid cervix and deficient powers. No dilatation after thirty hours. Recovery of mother and babe.

4. 2.—para. Aged 25 years. Placenta previa centralis. Mother and babe lived.

5. I.—para. Aged 23 years. Absolutely contracted pelvis. Mother and babe lived.

6. Eclampsia. I.—para. Aged 26 years. Measurements slightly less than normal, elongated cervix with no dilatation. Mother and babe lived.

7. Eclampsia. I.—para. Cervix undilated and uneffaced. Convulsion immediately after admission. Mother and babe lived.

8. Eclampsia. A number of convulsions before admission. After operation violent convulsions resulting in tearing a stitch in the abdominal wall with bleeding into the peritoneal cavity. Relaparotomy. Blood transfused from patient's husband. Mother and babe lived.

9. Placenta previa centralis. Mother and babe lived.

10. Slight pelvic contraction. Head would not enter pelvis after trial of labor. Cervix poorly dilated, membranes unruptured. Child lived. Mother died of post-operative ileus.

11. Eclampsia. Mother in wretched condition upon entrance. Section done after explaining to family that result would almost certainly be fatal in any event and at their earnest insistence. Mother and babe lost.

12. Eclampsia. Woman in convulsion when first seen. No pains. Cervix uneffaced and no dilatation. Child lived twenty-four hours. Mother recovered.

13. Uterine inertia. Labor thirty hours. No dilatation. Woman under care of competent physician, whose cleanliness was known. Had not been frequently examined. Mother and child lived.

14. I.—para. Aged 30 years. Two weeks past time. Baby apparently overlarge. Pelvic measure-

ments a little scant. Cervix long and narrow. Mother and child lived.

## INJURY TO PELVIC OUTLET FOLLOWING LABOR, OR ANY OTHER CAUSE —SHOULD IMMEDIATE REPAIR BE MADE?\*

H. EDWARD SAUER, M. D.

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Under any circumstances in which an accident to the pelvic outlet can be anticipated, there is advanced prophylactic measures, that an episiotomy should be done. This episiotomy should be sufficiently extensive and deep, even far into the levator ani muscle, if necessary, to prevent undue injury and permit of a concise anatomical repair. Many times, however, through injury due to precipitate labor, forceps delivery, spontaneous delivery of large tumors, and injuries due to falls, in which the parts are penetrated by foreign bodies, we find ourselves in a position where we are called upon to repair a pelvic outlet. Whether this should be done immediately, or not, is rather dependent upon the accuracy with which the proper parts can be brought into approximation. As a general procedure, it is a safe and surgical statement to make, that all open wounds, provided there is any reasonable approach to asepsis, should be immediately closed. If there is any doubt, closure may be made with frequent watching for the development of infection, and if there is any certainty of infection, closure should not be made at all. When considering the closing of these wounds, however, we have much more to think of than the mere surgical procedure of suturing. We have to consider not only the pelvic outlet but every contributory factor.

Primarily, therefore, it will be well to consider what I am pleased to call balance of power or balance of strength, or if you will, balance of resiliency of the female pelvic outlet.

Is there any one organ that performs the function of giving this tone, support or resiliency to the pelvic outlet? For a long time after Emmet's work and teachings the perineal body was looked upon as the chief support to the pelvic outlet. Next came those who considered the

\*Read before the Chicago Medical Society, Oct. 15, 1913.

levator ani muscle as all important. Then there were those who considered the levator ani and fasciae combined as the great factor.

Let us take a glimpse back morphologically. Whether Darwin is correct or not in his evolutionary theory there is sufficient indication in morphologic study to indicate that even if we were not originally facultative or selective quadrupeds as are the simians, we were not intended to be as erect or at least as continuously erect as we now stand and navigate. In fact instead of an easy task to assume a position on all four extremities, it is for the most of us a great difficulty to assume that position.

To refresh our minds on the formation of some of these supports I will briefly state that the theory is that the ovaries and mullerian ducts originate behind the peritoneum in the neighborhood of the mesonephros and gradually descend with the mullerian ducts which fuse in these lower portions and form the uterus and tubes and vagina. The entrance to the vagina is created by the absorption of manifold layers of epithelium in the perineal region and the remnant left posteriorly is or becomes the perineal body.

Contrary to the testicles in the male the ovaries do not descend out of the abdominal cavity but gradually invaginate into a peritoneal fold or covering keeping their intimate association with the mullerian ducts which have now become the uterus, by means of the ovarian ligaments. As the uterus develops into more of an entity it also invaginates into a peritoneal covering along with the fallopian tubes and when complete evolution has taken place we have two fallopian tubes held in position by the broad ligaments, two ovaries held in position by the ovarian ligaments and the peritoneal fold of the broad ligaments, posteriorly, and a uterus held in position by two broad ligaments and two sacro-uterine ligaments. The round ligaments are an additional support and regulators of motion.

Since the uterus is bent upon its own axis at an angle of 45 to 90 degrees, and since the axis of the uterus itself is located at 90 degrees or a right angle to the long axis of the body, then if you will place the body in a prone or horizontal position supported upon all four extremities you will see that there is a strong analogy between the support of the uterus, tubes and ovaries and that of the intestines. One can easily see the

analogy between the mesentery and the broad ligaments. Both are made up of areolar tissue carrying blood vessels, nerves and lymphatics. In addition we have the sacro-uterine ligaments forming a mesentery to the cervix. Continuing to view the body in the prone or horizontal position you will easily see that when we speak of the uterus and ovaries being *held* in position we should use that term in the sense of being *suspended* in position, that is hanging from the sacro-uterine and broad ligaments.

Let us go a step farther and keeping the body in the same position consider the influence of the abdominal wall. It now becomes a supporter of all the internal viscera through its attachment to the vertebral columns by means of the external and internal obliques and transversalis muscles.

In this position (i. e., the prone or horizontal position), the abdominal wall, being freed from constrictions and gravity that exerts such a baneful influence in the erect position, we can readily see that in accordance with the anatomical law of muscles just enough tone is exerted by it (i. e., the abdominal wall), to keep from putting either a tension or pressure upon the viscera. I know of nothing which illustrates this absence of pressure or tension from within the abdominal cavity, better than to observe any female animal jogging along in what we might call a natural gait free from strain or exertion. Under these circumstances observe the rectum, perineum and vagina working back and forth showing neither extraordinary retraction nor extraordinary bulging, if anything, rather more retraction than bulging. This area, which is a part of and intimately connected with the pelvic outlet, oscillates, as it were, in a state of stable equilibrium.

With the uterus thus located, the cervix being supported in the hollow of the sacrum by the sacro-uterine ligaments and the uterus itself being supported by the broad ligaments at a right angle to the body, the round ligaments assisting to keep it there, it is plain to see that any time there is an intra-abdominal pressure the tendency is for the uterus to press upon the vagina with its flat anterior surface and thus press the walls of the vagina together up against the bladder and symphysis. Under these circumstances let us ask ourselves of what use is any one organ in the pelvic outlet? Is the perineum alone the supporting body? Surely it is not. Why are



the superficial and deep fasciae there and what are they doing? They are simply limiting and fortifying the muscular action of the levator ani as do the fasciae in any other part of the body. They are helping to support the pelvic outlet only as they contribute to the support of this muscle. What is the levator ani for? How can it be there for any other purpose than to manipulate the coccyx? And if it were not for the fact that it has a secondary action in helping control the rectum we would probably find it more atrophied than we do now.

What is supporting the pelvic outlet? It is the *combination* of the normal perineum, the superficial and deep fasciae, the levator ani, the uterus held in normal position by the sacro-uterine ligaments which suspend the cervix in the hollow of the sacrum and the broad ligaments which suspend the uterus in the median line, with the addition of the round ligaments tending to always bring the uterus anterior when it has been displaced.

Place the body now in the *erect* position and what do we have? More or less the same condition, as far as the supports are concerned, only with gravity added. Instead of all the forces, however, tending toward pulling everything into the abdominal cavity, we have just the opposite, forces tending toward pushing everything out of the abdominal cavity, and hence any support active in the prone or horizontal position must do extra work in the erect position, and so we can readily understand that any repair work done to meet these added conditions, must carefully involve a consideration of all these supports combined, to bring back the condition referred to above.

When any enlargement of the uterus takes place as in pregnancy or in the development of a pedunculated intra-uterine tumor, it is a well known fact that physiologic hypertrophy, and no hyperpeasia of all the organs involved, occurs and when termination by delivery is imminent the vagina, levator ani fasciae and perineal body begin to relax.

Let delivery now take place in such a way that injury to the pelvic outlet is the result. What is the tendency toward repair? In the prone or horizontal position (i. e. on all four extremities), the abdominal wall being over extended or possibly I might better say in a relaxed condition

and the intra-abdominal crowding being greatly lessened by the delivery, the tendency is for everything to fall forward into the abdominal cavity. The heavy uterus suspended by the sacro-uterine and broad ligaments falls into its normal anteфлекed position at right angles to the axis of the body. No pressure being exerted downward upon the levator ani and its fasciae they tend to involute back to the normal and any tears in the vagina and perineal body tend toward the maximum amount of repair by being pulled together by the vagina as it is drawn toward the abdominal cavity by the heavy uterus. Now let us view the body as we have to in the erect position. After delivery the usual procedure is to keep the patient in the supine position from 10 to 15 days. This tends to retroplacements and retroflexions. The axis of the uterus and the vagina tend to lie in the same line. After the usual time the body is most frequently in the erect position. The *pressure* downward has a tendency to push the injured parts downward and apart instead of drawing them together. Disturbed circulation results. Normal involution is hindered. The parts remain heavy and soft. The uterus tends to descend as a wedge along the axis of the vagina. The broad and sacro-uterine ligaments do not involute normally and gradually elongate. The levator ani and fasciae become weakened, the perineum grows weak and bulges. Rectocele and cystocele develop, and then we have the whole chain of circumstances which causes an endless amount of suffering in women.

To try to radically repair any and all injuries to the pelvic outlet immediately at the time of their occurrence, and in doing this we have in mind, of course, the re-establishment of the normal support to the pelvic outlet, is an undesirable, and even in many cases, a reprehensible procedure. I cannot see how any one can feel convinced immediately after labor that he can diagnose completely and finally the amount of injury done, unless he has been able to anticipate injury by episiotomy under which circumstances an accurate anatomical repair can be made.

Since we have seen from the foregoing consideration of the numerous supports contributing to this balance of power (and that after all is really the support of the pelvic outlet), that a number of different contributing factors enter

into consideration, many of which indeed cannot possibly be determined until six weeks or more have passed, giving the uterus time to acquire at least an approach to normal involution. I am quite convinced that nothing more should be attempted than a cosmetic repair, namely covering only the raw surfaces as accurately as possible, minimizing thereby the danger of severe immediate infection, a certain amount of pain and considerable irritation.

Any attempt by deep seated wide sutures to draw supposedly destroyed and dislocated parts into place is at best a haphazard procedure. It is a huge guess. The deeper and as we have seen more important structures are never repaired in this way and at any subsequent repair operation all this work has to be undone again and often times with great difficulty. And above all it seems to me that the most baneful effect is the feeling of false security it gives to the average practitioner who after getting primary union, following immediate repair, feels that he has rendered all the necessary services and proceeds to forget about the case, when it should be the time to make careful notes, and set in on a period of observation, so as to determine just how much and what accurate repair must be undertaken later to keep the woman in the condition of comfort which is her right. For if you will hark back to what I said before about the woman being in an erect instead of a horizontal position you will see that gravity, intra-abdominal pressure and lacing are continually trying to accentuate the damage by downward pressure instead of everything helping to bring the parts into normal coaptation and support, as must be the tendency if the woman could assume the horizontal position with everything being drawn up into the abdominal cavity.

In conclusion, while I am inclined to immediate repair of the pelvic outlet on surgical principles, I am inclined that way only in a temporizing sense, with my mind and attention continually on the future possibilities and necessities which may arise anywhere from months to years after injury. Any repair work must extend to all of the injured supports which go to make up this balance controlling the pelvic outlet.

#### ABSTRACT OF DISCUSSION.

Dr. Henry F. Lewis: *Mr. President*—I want, first, to take issue with Dr. Sauer a little, and then agree

with him. In the first place, about episiotomy. He has told us, *ex cathedra*, it seemed to me, that we have got to do episiotomy in every case where we think there is going to be a tear of the pelvic outlet. Now I have never yet, in a practice of some little time, nor have many good obstetricians to whom I have talked on this subject, been able to definitely tell in an individual case that the pelvic outlet was going to tear. Of course, we know that in a case with a small pelvis and a large head, it is more likely to tear than with a small head. If you put on forceps and are rather quicker in extracting than you should be, you are going to have the more likelihood of tears. But I never could tell in an individual case that surely this case is going to tear—that is, enough to justify me in performing episiotomy in the case. I hope that the Doctor will tell us a little more about his episiotomy when he closes the discussion, and give us some reasons for the faith that he has expressed.

The pelvic floor is the bottom of a bag that contains fluid, and there are potential openings in it, the same as there are two or three other potential openings in that same bag of the abdomen. Another is the umbilicus, and others are the inguinal canals. These two inguinal canals can be very well taken as types of the outlet of the pelvis, supported by its two layers of muscle and fascia, the anterior and the posterior portions of the pelvic floor. This question of the individual weight of organs, to my mind, does not account for the fact that the uterus prolapses. Of course, if the patient goes on all fours, as spoken of by the Doctor, the uterus, as in four-footed animals, drags forward, but it is of very little more specific gravity than the other contents of the abdomen. The uterus is very rich in water. Its specific gravity is only slightly greater than that of the blood, and the contents of the abdomen in general. Therefore the increased weight of a uterus, even a subinvolved uterus, three or four times what it should be—that is, the increased weight in the presence of all that fluid, is very small—not enough to account for anything. It pretty nearly floats—just slightly settles to the bottom. That is not going to push down, and then, on account of its wedge shape, come out through the vagina. Of course, I will agree that the organs do come out through the vaginal opening, but first the vaginal opening itself usually comes out in the form of a cystocele or rectocele, or both, and very commonly the uterus follows. Very often there is a very extensive cystocele or rectocele, and the uterus in normal position. The condition is that there is a hernia. If the uterus is removed and the pelvic outlet is not in good repair, or is not in good condition, there is just as much of a chance of prolapse of the contents of the abdomen. The main reason why the uterus comes down is because it is there at the upper portion of that hernial canal, and is the first portion of the pelvic contents to start to come out.



Dr. C. Culbertson: I think that we are indebted to Dr. Sauer for his paper, particularly in connection with the one that has just preceded it. The previous speaker told us what is generally accepted, that obstetrics is in the hands of the general practitioner. The general practitioner, therefore, is the man who gets these immediate or recent lacerations. It is for him, then, either to repair them himself or to leave them alone or to have an expert repair them for him. As a rule, I am inclined to believe, he attempts to repair them himself, at least today, although he neglects some, especially if they do not look very extensive; or, if he has a very deep one or one that looks bad to him, then he is inclined to request someone else to share in the responsibility. Dr. Sauer gave a very brilliant comparison of the relation and position of the uterus in the four-legged animal and in the erect genus homo. I think there is one point, though, that he did not make, or that should be emphasized, and that is that in the upright two-legged animal, the genus homo, the levator ani is a much better developed muscle than in the four-footed animal. In the latter it is developed only sufficiently to wag the tail. But in the upright animal, where the tail has been lost, and where through many centuries and generations it has been brought into play as a supporting structure for intra-abdominal pressure downwards, it has become a better developed muscle in that it supports the abdominal viscera and is more prone, therefore, to damage in labor because of added resistance, due to its better development.

In its last analysis, this paper of Dr. Sauer's comes to be a discussion of the immediate repair of this pelvic floor when lacerated in labor. There is one form of destruction of the pelvic floor which was not brought out, to my mind, with enough emphasis, and that is one which is most usually overlooked by the general practitioner, and occasionally even by the expert, if in a hurry. We find occasionally a considerable relaxation of the posterior vaginal wall or of the perineum following spontaneous labor or operative delivery, where there has been no superficial tear or bursting of the mucous membrane of the vaginal tube, but where there has been a very extensive separation of the submucous musculature and fascia. This is one which is frequently overlooked, one which does not require immediate repair, of course, because there is no fresh, open surface to coapt, but which should not be neglected when the patient comes to final examination, before she is dismissed, which should be between the sixth and seventh weeks post-partum, the time mentioned by Dr. Sauer when he would finally determine as to what should be done in the cases of open laceration. As regards these cases where there has been open laceration, the speaker first takes a very radical position, and then changes this position in some degree, and, I think, wisely. My first impression was that he was going to leave his lacerated perinei entirely open until he could determine when to repair

these exactly, but he eventually stated that he would close these, at least temporarily, and then later see whether they needed anything more or not.

The cases in which the labor has been a long and tedious one, where the perineal floor structures are edematous and ecchymotic, and where the laceration is a very ragged one, much better results can be obtained by allowing the tissues to drain out, of course keeping the torn surfaces clean by a sterile or even antiseptic perineal dressing and by keeping the bowels quiet, thus allowing the edema to drain out and the ecchymosis to disappear. You will find that this takes place very rapidly, and then the repair can be made much more deliberately and with much better results any time in the next seventy-two hours. Some of these cases are sufficiently cleaned up in forty-eight hours, and some in thirty-six, and I have waited as long as three days. Then I find a very different picture. All that is needed is to slightly scrape the open surfaces with the edge of the scalpel to refresh them in order to make them unite. When these structures are united in this way the results are almost always good, and I have found that by waiting this length of time, if not longer, one can then definitely enough make out what tissues should be brought together. Where, however, the wound is a relatively fresh one, almost as fresh as an episiotomy incision, where it is merely a laceration with the forceps, I see no reason why it should not be repaired at once, and with the idea of its maintaining its integrity afterwards.

The important thing, of course, in allowing a laceration to remain open for a period of hours before repairing it is that it must be kept clean. One point in reference to the technic in these ecchymotic, edematous cases: It makes no difference whether you close them with silkworm gut, with catgut, or what material is used, if the sutures are tied tight enough to keep the tissues in coaptation after the edema subsides, they will cut through. If they are not tied this tight, when the edema has subsided you will find empty loops. That is one reason why the tissues should be drained out before repair. And this is why I am sure that many of these lacerations when repaired at once, after labor, do not unite as desired.

Dr. A. Goldspohn: I likewise agree that many of the injuries that occur in parturition are not plainly recognizable, are not on the surface detectable as wounds. These submucous tears, these fibrillary lacerations of the levator ani, and transverse perineal, occur more or less probably with every first labor with a mature child. And because there is no surface laceration, the obstetrician is apt to say to his patient that there is no laceration. There may not be any laceration on the surface, but beneath the surface there may have been very considerable injury by laceration and dilatation of the levator ani, particularly, and of its inner layer of fascia, which is intimately united with the most important parts of the levator ani. Of course, such injuries are not

amenable to repair at once. But these actual tears that anyone can see, if he looks, I am not prepared to say should be left open, as a rule, or even in any considerable percentage of cases. While it is true that we cannot restore the injury done in the deeper or posterior parts of the levator ani and pelvic fascia, we save the woman, I think, considerable harm, as far as infection and the position of her organs is concerned, if we close these open, obvious lacerations. It does make a difference to the position of the uterus, inviting a rectocele and a vesicocele, if she goes with this open tear for a month or two.

What I find to criticize about this subject is this: So far as my limited observation goes, it is that the practitioners do not sew up these obvious tears in the right manner. They introduce their stitches from the skin and aim to go up to the upper angle of the wound, and then come around out on the skin again. That is the exact opposite of the direction in which their suture should go. It is necessary to do intrapelvic work here. Have the parts held asunder so that the upper limit of the laceration is distinctly apparent, and enter the sutures, if the interrupted is chosen, in such a way that the circuit of the suture is in a plane that is parallel with the plane of the pelvic outlet, and not at right angles to it. Any suture on a lacerated perineum that tends to shorten the distance between the posterior commissure and the posterior vaginal insertion to the uterus, that is placed in any manner to shorten the length of the posterior vaginal wall, is radically wrong. All union should be made in such a way as not to interfere with the length of the posterior vaginal wall. The interrupted silkworm gut is probably the most advisable suture, and there is such a good opportunity usually because the parts are benumbed. It should be done without much delay, before fibrin can accumulate and adhere to the wound in a way to make it objectionable for union, even before the placenta is delivered, and while we are waiting for that. The great bulk of these sutures can be placed without hurting the woman, without any anesthetic, local or general. They can be placed, and then wait for the placenta to be delivered; afterwards clean out the wound and tie the sutures. If the union is made after the placenta has been delivered, then a good practice may be to use a continuous catgut suture, suturing from the upper angle downward, and the bottom forward.

Submucous tears are amenable only to secondary repair, and they will not be made good by the average perineorrhaphy, either. It is necessary to go up beneath the vagina into the pelvis much further than men, as a rule, have done, in order to get at the levator ani and its associated deep pelvic fascia. The fascia is an important factor that I emphasize. It is the fascia that does more good than the levator ani alone, and we cannot get at the levator ani without getting the fascia, because the fascia lies on the inner side of the muscle and the two are united. But we need to go into the woman's pelvis, do in-

trapelvic work, at least two inches away from the plane of the hymen, if we pretend to have anything to do with radical repair of the most important structures in the woman's pelvic diaphragm.

Dr. Sauer (closing the discussion): All I wish to say in conclusion is that I knew when writing my paper that it would provoke some discussion. I based my remarks on a principle, and that principle is based on the fact that every day we are finding these women in the hospitals and in our offices with repaired perinei, which seem to be the center of attack of all men who are doing ordinary, average obstetrics. They think that if they sew up the perineum that is all that is necessary. You can see these patients with well healed stitch marks, and yet out comes the rectum, out comes the bladder, and down comes the uterus, and they are complaining of pain, backache, etc.

What I was trying to do in my paper was to get your minds away from the perineum *per se* and make you look at the pelvic outlet. Howard Kelly started that a long time ago, but the doctors are slow in taking it up. It is a question not involving a tear in the skin or a tear in the mucous membrane, but everything connected with the entire support of this pelvic cavity.

In my paper I said that it is advisable to close up the ordinary tears, to get away from pain, etc., by coapting raw surfaces—you do that anywhere in the body. But by doing that you are not getting repair of that pelvic outlet. That is what the woman needs. The uterine ligaments need to be held up. If you put the cervix in the hollow of the sacrum, the uterus will naturally fall forward, away from the promontory of the sacrum, and if it falls forward it will press downward with its anterior surface on the vagina, instead of trying to get into the vagina. It is this pressing down of the wedge-shaped uterus along the axis of the vagina that leads to descent and dislocation and discomfort, and the first thing we know we have even a complete prolapse of the uterus. And it is this continual dragging down, bearing down pain that is causing women to suffer.

Regarding Dr. Lewis' remarks about doing an episiotomy, it seems to me that any man ought to know when it should be done. I am not referring to the ordinary procedure of clipping the skin in the later stages of labor when the head is just ready to slip over the perineum; what I referred to was a real prophylactic episiotomy, making it as extensive and deep as necessary to give working space. It seems to me simple enough to see that this is indicated in all cases of high forceps operations, difficult breech extractions, possibly with forceps on after-coming head, or difficult version. It is really in these cases that you get the worst sub-mucous and sub-cutaneous injuries to the pelvic outlet. Thus you prevent a ripping and tearing of these tissues. The bleeding can be easily stopped, the anatomical parts picked up and properly coapted, and a nice anatomical repair results, and if the internal supports have not been



injured, the patient should remain in a perfectly normal and comfortable condition.

## A DEVICE FOR THE TREATMENT OF PROSTATITIS

CHARLES MORGAN McKENNA, M. D.,  
CHICAGO, ILL.

Instructor in Surgery, College of Medicine University of Illinois; Surgeon to St. Joseph's Hospital; Cystoscopist to St. Bernard's and People's Hospitals.

I always felt very keenly the lack of an appliance for the Bier treatment in inflammations of the prostate gland. The device which I am about to describe is a glass suction tube that fits into the rectum in such a way that hyperemia of the prostate and its surrounding tissue may actually be produced.

Fig. 1a shows a conical shaped tube about three and one-half inches long and one and one-eighth inches in diameter with an outlet at the large end; on one surface there is a depression with an opening in the center; from this open-

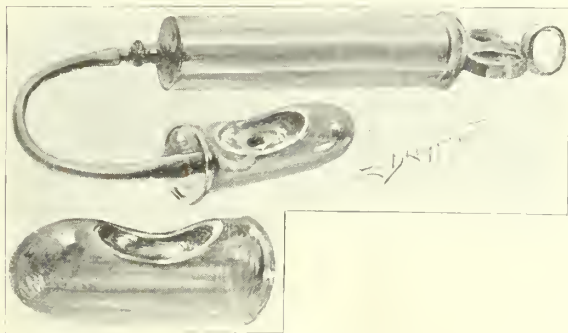


Fig. 1. Apparatus for Bier Treatment of Prostate.

ing a small glass tube extends through the lumen of the large cone where a syringe may be attached by means of a rubber tubing.

If one cystoscopes the base of the bladder while the tube is in the rectum, the prostate can be seen to move out toward the coccyx on suction of the syringe. This phenomenon furnishes the proof that the suction is effective on the base of the bladder. This, however, was done for my satisfaction only.

Fig. 1b shows a retaining tampon which is similar to No. 1 minus the opening in the depression. This depression may be filled with ichthyol and glycerine or any salt and left in the rectum for several hours at a time. The tampon is only used in case the patient can re-

main in bed. The suction device is left in the rectum from two to eight minutes at a time and may be released if too much pain is experienced and again used after the patient has had sufficient rest.

The following is a report of four cases in which the Bier's cup device was used:

Case 1. Referred to me by Dr. C. P. Caldwell, May 24, 1913. Mr. T., Italian, aged 34 years, contracted gonorrhea four years previously and never fully recovered. Discharge would continue three or four days at a time and then stop, usually a morning drop; smear showed no gonococci. Anterior urethra free from strictures. Patient did not drink, and had had no intercourse for months. On massaging the prostate gland a smear could be easily obtained for microscopical examination.

Treatment. Gave deep instillations of 20 per cent. argyrol once a day for one week, then nitrate of silver in various strengths up to 1 per cent. in deep urethra. Patient returned ten days later unimproved. The Bier's cup device was used at sittings of three minutes at a time; each day the time was extended until ten minutes were reached. This treatment was administered every other day for three weeks and at the date of this publication the patient is free from any discharge subjective symptoms, so that we may speak of a cure in a clinical sense. He was last seen August 12, 1913, and said that he was well; massage of the prostate did not produce any results.

Case 2. June 2, 1913. Mr. R., Irish, aged 27 years, single, occupation, street car conductor. Contracted gonorrhea three years ago. Discharge had stopped, except for the occasional appearance of a morning drop. Patient complains of a dull, heavy feeling in the rectum, and irritation on each urination. The smear showed few gonococci which appeared inactive. After eleven injections of 0.5 per cent nitrate of silver, no gonococci could be found in the smear, although symptoms remained the same. The Bier's cup was used in the same way as in Case 1, and after three weeks symptoms had ceased.

Case 3. June 6, 1913; referred by Dr. S. McNeil. Mr. H., Scotch-Irish, aged 44 years, single, contracted gonorrhea in the years of 1898, 1903, 1909. The patient had a very long scrotum and an old hydrocele on right side. Was sent to St. Joseph's Hospital, where the scrotum was shortened, the hydrocele was operated on, and vas injected after Belfield's method. The vas was injected every day for six days with 10 per cent. argyrol and every other day for three days. Fistula was allowed to close but discharge continued without showing any gonococci. I used the above mentioned device in the office three times a week for four and a half weeks and at present the patient is symptomatically cured. The prostate gland appears to be normal to pulsation.

Case 4. Mr. P., German, aged 66 years, janitor, denied ever having any venereal disease. Had an en-

larged prostate which had bothered him for five years. Had used sounds on himself. Present history: could not void urine without the use of a catheter. Examination of urine showed pus with many bacteria. Patient was sent to St. Joseph's Hospital and prepared for a prostatectomy. Bier's cup device with hot irrigations used daily for ten days, at which time prostate was quite firm, and spontaneous urination was possible again under difficulty, however, owing to the size of the gland, the prostate was removed, which was followed by an uneventful recovery and complete cure as to retention.

While this device has been used only on a limited number of cases, I feel entitled to claim for it a place in the treatment of inflammatory conditions. It was noted that when the discharge was free from gonococci the pathologic condition yielded more quickly. There are a number of cases under observation at present, none of which have been treated longer than three weeks. I would be glad to see this instrument used by other men, so that reports could be compared.

I wish to thank Dr. G. Kolischer for his interest and suggestions.

108 North State street.

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DEMONSTRATION OF A PATIENT WITH  
RECURRING CARCINOMA OF THE  
BREAST, TREATED WITH INJECTIONS  
OF QUININE BISULPHATE, WHICH  
WAS MADE RADIO-ACTIVE BY MEANS  
OF ROENTGEN RAYS AFTER INJECTION\*

MAX REICHMANN, M.D.

CHICAGO, ILL.

This patient was referred to me by Dr. H. F. Peterson of Dundee, Ill., to whom I am also indebted for the history of the case. Patient is 62 years of age, married for 38 years, has borne six children of whom five are living and in good health, one died of diphtheria. Menstruation started at the age of 16; stopped at 57. No lues.

Mother died at the age of 72 from obstruction of pylorus. The attending physician suspected carcinoma.

One brother died at 45 of carcinoma of the rectum. In 1905 the patient consulted Dr. Peterson about an increasing tumor in the right breast. The tumor was hard, painful to the touch and increasing in size, the glands in the

axillary region were involved. The doctor advised radical operation which was performed in February, 1905, by Dr. Madden of Elgin.

The process of healing was uninterrupted except for a small portion of the skin at the insertion of the pectoralis major, which remained inflamed. She refused to have that part of the skin removed, and also refused to undergo Roentgen treatment. An open sore developed, which resisted all treatment. Later on pressure of the scar tissue produced a large amount of edema of the forearm and hand so that the extremity became absolutely useless. This happened in the early part of 1913. In July, 1913, she again consulted Dr. Peterson. The circumference of the forearm was then 12 inches, of the wrist 9 inches. There was an indurated ulcer of the size of a silver dollar under the middle of her right clavicle, a hard tumor of the size of a fist on the median aspect of her arm and quite a number of small tumors ranging in size from a pea to a small nut above and beneath the clavicle.

I gave her the first series of six Roentgen treatments on six successive days beginning August 5, 1913. A solution of quinine bisulphate 8 grams to 100 grams distilled water, was injected into each tumor and also into the very hard base of the ulceration and a full dose (3H units). (measured by Holzkecht's radiometer) of Roentgen rays applied each day. The tube used was a water cooled tube with a very high vacuum and the rays were allowed to pass through a lead diaphragm with an opening of 5 cm. The distance between the tube and the body was 20 cm. After the six treatments the patient went home and returned in two weeks. All the tumors had then disappeared, and the ulcer was not larger than a quarter.

Another series of six treatments was applied, and when after three weeks the patient returned the ulceration had practically healed, and the condition of her arm had improved so that the patient could comb her hair; when I saw her the first time she could hardly move the arm. I am well aware that I cannot draw any conclusion from this case. My purpose in demonstrating it tonight is to urge you to try this method in all the cases which are either inoperable or where an operation is absolutely refused.

There is no question in my mind that the treatment of malignant diseases will sooner or

\*Presented before the Chicago Medical Society, December 15, 1913.



later consist in the application of light in one or the other form, and if my method will in a larger number of cases prove itself as effective as in the case just demonstrated, then I think is a way shown to get radio-active substances at the smallest cost possible.

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ADDRESS BEFORE NATIONAL CONGRESS  
OF FRATERNAL MEDICAL  
DIRECTORS.\*

A. M. CORWIN, M. D.,  
CHICAGO.

*Mr. Chairman and Gentlemen:* Who would not appreciate an opportunity to fraternize with this superlatively fraternal group of national directors, whose companies believe in and practice the insuring of the people upon such terms as shall allow protection without depleting the purse?

Fraternity, reciprocity, mutuality, cooperation, are ideas closely allied, and are becoming more popular every day, whether in insurance, business, society, or religion. Fraternity! You are at the heart of it, and I am a strong believer in it. As a city practitioner of over two decades, and an examiner during all this time, for old line and in a small way, for fraternal societies, I am conscious of having some ideas based upon experience and observation, and will speak briefly upon the medical examiner.

In the present haphazard condition of medical education and licensure in this country, with so many different standards, different laws, different methods of procedure in each state and territory, it is no easy job for the medical director to so standardize the members of his profession as to be sure of choosing at first picking reliable, able men, as examiners.

By questioning national directories, scrutinizing educational qualifications and consulting at long distance with his neighbors and then trying him out, you, gentlemen of the mahogany, finally come to eliminate the unfit and find who will serve you well for a longer or shorter time. You aim to pick young men, live wires. But as practitioners get busy and prosper, the tendency is to shirk examining more and more, not only in the

actual performance of the work, but in neglect of appointments. This perhaps is peculiarly so in the city. And so the company loses good examiners.

Now, there are two sides to the question of whether insurance examining is a blessing or a curse to the medical man who does it upon the present basis and engages in it extensively. There is no hard and fast line to indicate the one or the other, blessing or curse. That it is mightily important work, from the standpoint of the management and of the policy holder, is beyond argument. Someone must do it, and do it well. That a well-equipped man in active practice is a better judge of risks, other things being equal, is, I think, fairly conceded. The problem is to hold the busy, experienced practitioner to the job. And here the *quid pro quo* is an important asset. The old line fee of five dollars, and ten for extra service, is none too large for work that is worth while, and where a less sum is paid I believe the value of service rendered is apt to decrease in almost geometric ratio. All old line and fraternal companies can well afford to pay five dollars or more for examination, either out of their purse or out of the applicant's pocket, for the comparatively easy money made in the office examination is more than balanced by "the wild goose chases" of bad appointments and the distant runs in all kinds of weather and at all hours, for the distances involved in such a service in Chicago are immense. The service rendered by examiners for fraternal companies are not inferior to those required by legal reserve companies and should be paid for accordingly.

Again, if the companies would take extra care to impress upon each physician appointed that he has been chosen as a part of the company, a most important part, the dignity of whose service makes it second to none, and would take that examiner into the confidence of the directing force at the home office, as far as possible, considering the hundreds of individual doctors involved, it would add to the efficiency of the field force from the outset, and bind many a good man to loyalty who otherwise takes small interest in the work of the company. The getting together of the field force fraternally once in a while would also help. For the man who gets into the habit, as it is easy for him to do, of looking simply upon the

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\*Read at a meeting in the Sherman House, Chicago, Aug. 18, 1913.

fee in sight, is poor stuff in the long run—even as is the practitioner who looks upon his patient through venal lenses. You do not want him upon your pay roll.

Often the trouble is that the agency department, pushing for business, is too apt to hold the lion's share of the president's ear, as compared with the hearing given to the medical department. "To Hell with the doctors," "We want business," is sometimes seemingly the view-point, so that in a disagreement reported from the field as between agent and examiner the former is too apt to get disproportionate backing, and the doctor either feels that his job is endangered if he takes a decided stand, and actually loses it, or he tends to feel that to hold it he must sink his judgment and perhaps conscience in the loud clamor for business. So a good examiner must be a strong character—a man alert, with well used conscience, a diplomat, a man of good judgment, and who knows how to size up a risk, without hair splitting; a man, methodical and thorough, who has good reasons and knows how to express them, and who will speak out fearlessly, frankly and plainly, yet respectfully, so that his chief officer knows just what he means, and trusts him implicitly. There are hundreds of such men, and there are hundreds who cannot qualify in some of these important particulars. To find and to hold the fit is your aim.

If a young man has *balance* enough, strength of character enough to take an appointment as examiner and look after a moderate amount of its work at his office or by appointments between office hours, it may be to him a benefit in direct fees from the company, in acquaintance, and therefore practice, and in the education of his judgment. Many a young practitioner has thus found fifty or one hundred dollars a month, without interfering with the growth of his practice. If he has not that judgment and strength of character referred to, it will be easy for him to neglect his patients for the sake of that sure fee, and for the sake of the good will of agents. It will be easy by catering to solicitors who can and will switch their business to or from him to become merely an insurance examiner, known as such, tied to the tail of some agency force, subservient, docile, alert to do the master's bidding, losing in

force and growing in anxiety as patients diminish lest applicants also fall off. And when, through misadventure or accident, the action of nepotism or some other factor, an insurance doctor of years' devotion loses his job, what a tragedy it is.

Here is a young novitiate, without practice, without capital, without acquaintance, possibly married or carrying the burdens of support for father or mother. He is bright, energetic, well-equipped and fitted to succeed in medicine and he settles in a good live neighborhood. He begins to see patients growing in number, and then he applies for an insurance job or gets one, with a large company, writing good business. He soon tastes the fascination of that monthly check for one hundred or two hundred, though to get it means the chasing of applicants through wide areas. He is more or less at the nod and beck of the insurance agency, which, finding him accommodating and affable, makes him subservient in the matter of time and place. Very early he finds himself keeping irregular hours at his office. He postpones calls. He is late at appointments, and his neighbors are surprisingly quick to find it out. The result is that the neighborhood practice, which normally would come his way, with its transient needs, finding him out, drifts swiftly across the street. To that other equally young, alert and needy competitor of his upon the opposite corner goes the broken clavicle, duodenal colic, cut finger, and attack of croup, which, efficiently and promptly attended to, bring in their train the obstetric case, the threatening appendix, and the spreading reputation as skillful, ready adviser for all the ills of family practice. That man across the way has to read his journals and textbooks to keep in touch with his growing practice. He finds that he can get great post-graduate benefit from attendance upon his medical societies, and as his practice grows, so does he. He does not fail to fraternize with the druggist and other business men of his bailiwick, and is on the go from early till late. The voice of his auto is heard in the land, and the smell of it in the nostrils of the people advertises him as their best friend, and ere his temples begin to silver that man can write his bank account in four figures, negotiate for corner lots and gilt edge securities. He is established upon a sure financial footing.



He owns his own home and he carries a goodly line of fraternal, burglar, fire and cyclone insurance to protect his growing family. He steers clear of the abortion case. He acts with fidelity toward every household, the key of which is given over into his keeping. No breath of scandal tarnishes his reputation. He is trusted by his patients and respected even by his rivals. Such an one is the type of hundreds of hard-working, able, honest doctors in our cities and in the country who hold aloft the standards of our profession, the recognized bulwarks against which beat in vain the forces of insanitation and the powers of disease.

On the other hand, the exclusive insurance doctor, very busy, gets his certain moderate return, but never gets anywhere in the practice of medicine and surgery. True, he may climb to the place of chief, where he is open to congratulations. But these acquirements of place are necessarily few and far between.

I have painted the two extremes because they are of everyday occurrence. What we want is a happy mean between them. To get it, a careful organization of the local field force is to be desired in metropolitan centers, a wise districting of areas, not too large, within each of which a certain examiner is alone recognized, the whole city or country being under a local chief examiner, through whose hands, if possible, all applications pass. The Prudential examining force, for example, has such a field organization. In small towns, where comparatively little business is done, and that distributed in time, no such need of organization is present.

I shall not further enter into this important discussion, nor usurp your time, but end my remarks with a word of hearty welcome to Chicago to the members of this notable Congress. I welcome you not as an official of the city or of the medical society, but as a plain citizen of the one and an active member of the other, highly interested in the work you have in hand. Congratulations are in order also that the fraternal chiefs of so many fraternal groups are thus getting together and seeking by mutual interchange of ideas and acquaintance to elevate the standard of this work, and by cooperation to make more efficient each organization.

15 F. WASHINGTON STREET.

## ARE CRIMINALS INSANE INDIVIDUALS?\*

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A labored effort has been made in preparing the following discussion to avoid the appearance of casting a reflection on the insane, for as a class, their irresponsibility is recognized by all. An effort, however, will be made to show that those persons belonging to what is known as the criminal class are in the main degenerate, abnormal or unbalanced mentally, therefore lacking in responsibility, and differing from the insane in only a few essential points. This should not be construed to mean that no crimes are committed by sane and responsible people, but that as a rule, irresponsibility should be ascribed to the criminal class, and that responsibility is the exception.

A logical corollary to this would be that if the majority of criminals are irresponsible, they should receive hospital treatment instead of the rigid disciplinary treatment of the prison. The reason courts of justice do not recognize the irresponsibility of the criminal class oftener than occurs is due to the imperfect standard by which the sanity of the individual under question is measured. Usually the courts and the law do not recognize the existence of insanity except when the intellectual faculties are dethroned, and are accompanied by either delusions, hallucinations or illusions. It ignores the sensibilities and the will in the solution of the question.

The affections, sensibilities, habits and moral sense of an individual may be entirely changed without any evidence of intellectual impairment.

In this connection the fact should not be lost sight of that the mind, or psyche, consists of three faculties, or, if you choose, possesses three functions: *i. e.* intellect, sensibility and will. Irresponsibility and its sequence, criminality, may follow the derangement of any one of these faculties, or any combination of them. One cannot be of sound mind unless all the mental faculties, intellect, will and sensibility functionate normally. In preparing this paper, the writer assumes as a fundamental hypothesis that a nervous and

\*Read at a meeting of alienists and neurologists, held under the auspices of the Chicago Medical Society, June 23-25, 1913.

mental equilibrium is necessary to correct thinking and acting.

In many individuals we find the ability to discriminate between right and wrong unimpaired, and the correlation of facts undisturbed, but the person may be powerless to control his conduct according to his knowledge. This inability of the will to control the conduct has been termed by many writers, "Moral Insanity," and results usually in a career of crime.

Dr. Arnold Loran held "That the two barriers protecting the individual against crime, or a criminal career, are active and free will power guided by a sound reasoning power. To see the right and be able to do it; to recognize the wrong and to have the power to refrain from its practice, here is the heart of pathology of crime." He justifies this position as follows: "When a man has free will power he is able to control his passions; when possessed of sound reason, he can distinguish between right and wrong. Another fact of the first importance is that crime is the most common among children of alcoholic and syphilitic parents, because these children are born in a condition of congenital myxedema, and are lacking in reason and will power."

He says further: "Crime has a basis in physical fault. The correction of crime is to be sought in the correction of physical fault rather than in vengeful or isolating forms of punishment inflicted by a hard and fast rule on the individual."

Further, the fact seems clear that the criminal is an abnormal individual in mental balance, or has some perversion of thought. Dr. Chapin refers to this abnormal mental balance as follows: "The bulk of morbidly determined crimes is attributive to the state of defective or uneven abnormal development, *i. e.*, varying grades of imbecility, probably about 22 per cent."

Referring to an acquired uneven mental balance he again says: "That from common observation and experience we recognize the fact that indulgence in passion may result in a loss of self-control and gradual degeneration, which is acquired and not necessarily due to disease, inheritance or environment."

The fact that the mental poise may be disturbed by the loss of other faculties was stated by Dr. Haven when he referred to memory: "The importance of memory as a faculty of the mind is

shown by the simple fact that but for it there could be no consciousness of continued existence; none of personal identity, for memory is our only voucher for the fact that we existed at all at any previous moment. Without this faculty each separate moment of life would be a new existence, isolated, disconnected, without aught before or after."

The loss of the memory of the rules and laws of society, and the penalties inflicted for their violation; the loss of the memory of neighbors, friends and kindred, offers the opportunity for impulsive thoughts to drive the victim to the worst crimes of violence.

Dr. Lydston says: "The criminal is a person out of harmony with the social fabric, and unable to re-adjust himself." Again he reasons as follows: "Many individuals incarcerated in prisons are criminals not by choice, but because of structural peculiarities, evolutionary changes and lack of intellectual balance. The fact that criminals are abnormally unstable and easily influenced, and controlled by exterior forces, is shown by the fact that barometric changes influence the wave of crime."

Again, the criminal act performed under irresistible impulse and desires is performed by automatisms outside the will, and the perpetrator of the crime may be neither malicious nor wilful, although he knows the nature and qualities of the act, for he fights against the impulse to commit the crime, and pleads to be restrained from its commission.

Another characteristic of the criminal worthy of consideration is that of degeneracy which is the precursor of criminal acts, prostitution, pauperism, inebriety, or insanity. The over-development, as well as the abolition of one of the sensibilities, usually leads to crime. This fact is exemplified in the over development of love which causes a person infatuated with another of the opposite sex to commit a crime for present gratification. Likewise, the loss of this faculty causes many husbands and fathers to violate, in a criminal manner, the social code of morals.

Another source of crime originates in the condition where the malevolent effects assume mastery; as in outbursts of anger, for somewhere in its evolution it is transformed into vindictiveness which inhibits judgment and paralyzes reason.



Joseph Haven forcefully states this fact as follows: "The individual becomes a hater of his race, vindictive, jealous, and an outcast from society." And again, "Roused to more than ordinary activity, breaking away from the restraints of reason and the dictates of sober judgment, assuming command of the soul and urging it on to a given end, regardless of other and higher interests, these affections assume the name of passions, and the spectacle is presented of a man driven blindly and madly to the accomplishment of his wishes as the ship, dismantled, drives before the storm."

Many writers believe that our sensibilities are a greater controlling factor in the shaping of the conduct than the intellect, for they furnish color and setting to all the products of the intellect, and what one feels is more real to the individual than the action of the intellect. The conclusion that the doer of crime, showing cunning, premeditation and foresight, is sane, therefore responsible, is not warranted, for doubtless everyone present, who has had extensive experience in the care of the insane, has observed many instances of the commission of crime by those who are obviously insane, where the highest degree of cunning and foresight was used in its execution.

Mercier reasons on the subject of crime as follows: "It is the pursuit of self-gratification at the expense of the welfare of society. The majority of men are not criminal, not because they are destitute of desire for their own gratification, but because this desire, in cases in which it could be gratified by injury to others, and so be criminal, is counteracted by other desires—the social instincts which make a man reluctant to injure the community of which he is a member, or his fellow members."

"In the conflict of motives that so frequently arise in our experience; in the search for self-gratification, which is the underlying motive for most of our conduct, it often happens that particular gratification can be obtained by injury to society, to our fellows, or social institutions."

He continues to reason as follows: "If we commit a crime under the circumstances mentioned, it is because our social instinct is defective, or our ability to discern the criminality of the act is wanting. It appears therefrom that every individual possesses two sets of instincts at

variance with each other; the self regarding and the social, which vary in different proportions in different people. The social instinct is fortified by the fear of punishment, and the loss of approval of our fellow men.

These three motives are ordinarily strong enough to safeguard the individual against crime, but it will be reversed if the pro-criminal motive, the desire for self-gratification, should be excessively increased to the point of overcoming the opposing motives of normal strength; or when the inhibitory power is so weak that the desire for self-indulgence readily overcomes the resistance offered by the abnormally weak social instincts. Thus it will be seen that one set of instincts tends to guide us in paths of virtue and rectitude, while the other set tends irresistibly to drive us into a career of crime.

In some persons one set of instinct predominates, and in other persons the other set predominates. The fact that the two kinds of instincts vary in intensity in different individuals cannot be denied, and that whether the actor leads a virtuous or criminal career depends much on this variance.

The variance of the sensibilities from the normal may be either natural or acquired. The natural, or hereditary, variance has previously been discussed in this paper, but the acquired variance may be developed by the continuous operation of many factors in the lives of persons who do not possess a stable nervous system, or a well balanced mental equilibrium. The use of narcotics may produce the variation, for they impair the will and the moral sense.

The excessive use of alcohol paralyzes the ability to judge the right from the wrong, therefore crimes of impulse and brutality are likely to occur. That the trend of a person's acts are determined by his view point was stated by Socrates when he held that man always pursues that which they think to be good, and always do that which they think to be right, since the good and the right are identical, sometimes mistaking an apparent good for a real one, but always doing as well as they know.

From this statement the natural conclusion follows that crime is so much ignorance, and virtue so much knowledge.

## CONSTITUTIONAL IMMORALITY.\*

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A vast wealth of clinical material of psychiatric nature is going to waste in our penal institutions because of a lack of scientific curiosity on the part of well-qualified investigators. Among the interesting and intricate problems met with in prisons and reformatories is the subject of constitutional immorality, the obscure and difficult pathology of which offers a most inviting field for study and research to the alienist and criminologist. The idea that some individuals are immoral because of constitutional defect of the neural organism is most repugnant, as it seems to challenge the traditional belief in man's free will, and this is especially true of those unfamiliar with mental diseases.

Yet we who have delinquent individuals within our care and custody know that there are persons who cannot refrain from crime because of their degenerate organizations, which predispose and impel them to immoral and illegal acts.

Before going further, it may be well to speak of morality or the moral sense in the general acceptance of this term. Every individual is presumed to be the possessor of an innate moral sense or conscience, which enables him to decide as to what is right or wrong in human conduct, and act accordingly. Morality and character may be described as a function of the brain, as is memory, imagination, or thought; and it is certain that no life is lived without the development of what we term character.

The moral sense or quality is, however, the last of the psychic functions to be developed; it is also the first to be confused, disordered, or destroyed by pathologic processes affecting the mind.

It is perfectly apparent that the function of intellect may be limited by developmental defects occurring in the physical evolution of the brain substance; this being the case, there is no logical reason why the moral capacities of the mind should not suffer from defects for the same reason.

Since well-qualified observers have found to be an entity a condition which has been variously

termed constitutional immorality and moral insanity or moral imbecility, it will be apropos to quote several definitions describing it.

Tanzi states, "Constitutional immorality is recognized; in such instances the faults of character are out of proportion to the insignificant disorders of intelligence."

White defines this condition as follows: "Moral imbecility is a condition of mental defectiveness which is shown by the absence of the highest functions, particularly the moral; capable of training to a considerable degree, but always a menace to society." Maudsley speaks of cases of this kind as "a group of persons of unsound mental temperament, who are born with an entire absence of the moral sense, destitute even of the possibility of moral feeling; they are as truly insensible to the moral relations of life, as deficient in this regard, as a person who is color-blind is to certain colors, or as one without the ear for music is to the finest harmonies of sound. Although there is usually combined with the absence of moral sensibility more or less weakness of the mind, it does happen in some instances that there is a remarkably acute intellect of the cunning type."

According to Herbert Spencer, higher feeling is merely the center of co-ordination, by which less complex aggregations are brought into proper relations. In the process of evolution, this center of co-ordination may never be developed, and moral insanity may result, or great waywardness of moral conduct without marked disorder of the intellect. The doctrine of moral imbecility and moral insanity is then, as Tuke says, "In full accord with mental rules of evolution and dissolution as laid down by Spencer."

Spitzka has defined constitutional immorality as follows: "Disorders of the moral sentiments may be congenital,—an original deficiency analogous to that lack of musical sense or color-blindness which may co-exist with a fair faculty of language and good contour of perception,—with fairly good logical powers in the abstract." According to Sir James Crichton-Browne: "The moral imbecile is a person who by reason of arrested development or disease of the brain, dating from birth or early years, displays at an early age vicious or criminal propensities which are of an incorrigible and unusual nature, and are

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generally associated with some slight limitation of intellect."

*General Considerations.*—The operation of the indeterminate laws which are so generally in force separate the accidental and occasional criminals from those who are constitutionally immoral. The first class is composed of those persons who have strayed from the paths of moral and legal rectitude while under the strain of some unfortunate circumstance which provokes an outburst of passion; an individual in whom the social tendencies are strongly developed might commit a murder in the heat of passion to avenge an outrage on a member of his family committed by an anti-social person. A too free indulgence in alcoholic beverages or association with vicious companions may lead to crime in persons who do not differ from the normal members of society. These persons regain their former standing in civil life, and forget their crimes, which were merely solitary and incidental experiences in their lives. The constitutionally immoral serve sentence after sentence, are paroled again and again to the best of environments, but they cannot be kept out of prisons, toward which they gravitate, irresistibly drawn to them by inherent defects in their constitutions.

These unfortunate moral defectives we generally find to be burdened with an evil heredity, a harsh, unrelenting tyranny of ancestral defect. Many of them are ignorant, and do not rise above the level of the feeble-minded; in marked contrast, others are highly educated persons who assent to general propositions concerning right and wrong, and frequently delight to discuss moral customs and laws in order to exploit their casuistic and argumentative powers, but to them the concrete application of moral or legal restraint is a hard saying which they cannot understand.

Some of the highly intellectual immorals fail to display the grosser and more vulgar evidences of their defects; their moral anesthesia shows itself in an absence of the desire to do good, and a poverty of altruistic sentiments. They conform in a negative manner to the conventions of society for personal gain alone. They regard marriage as a legitimate prostitution. They perform acts of apparent charity to gain personal advertisement; make various professions of religion to suit the community in which they may happen to

live, if they find it pays; again they pose as humanitarians or public leaders for the satisfaction of their exaggerated egotism.

"They are, nevertheless, immoral persons without honor, without remorse, without feeling, without passion, and without humanity. They never yield to the cruder forms of crime; they are furious at the slightest suggestion that they are immoral."

The greatest criminals today belong to the highly-educated type whose crimes are so cunningly executed and who are so veneered with an appearance of respectability that for long periods of time we fail to discover their moral bankruptcy.

*Mechanism of Constitutional Immorality.*—The processes of the mind are continuous, and so-called faculties or states of mind have no separate and distinct existence; yet the terms of the old psychology may be used conveniently in this paper to designate those three great expressions of mental life, intellect, feeling, and volition. These are conjoined and blended continuously, and no one of the three can be taken into account without considering the other two. So, in my endeavor to describe moral insanity, I will classify it under three heads, according to which one of the three great functions of the psyche is most involved. We may, therefore, divide constitutional immorality into four types, as follows:

1. Where the defect of the psyche is most marked in the sphere of intellectuality.
2. Where the defect is most pronounced in the emotional sphere.
3. Where the volitional sphere is primarily involved.
4. Where more than one sphere of the mind is affected.

The function of the mind is continuously to adjust the individual to his ever-changing environment, and a proper balance of the intellectual, emotional, and volitional activities is necessary for this adjustment. In the constitutionally immoral we find a disequilibrium<sup>1</sup> of the above-mentioned functions of the mentality which leads to the consummation of the criminal acts. A bank robber skilfully opens a most intricate lock to a vault and secures its valuable contents. The

<sup>1</sup>Disequilibres, from the French.

criminal's intellectual capacities were adequate to the understanding of the mechanism of the difficult lock, the necessary volitional activities were evidenced by the skilful manipulation of the same and the successful completion of his well-calculated crime, but the much-lowered or inert emotional capacities of his mental organism failed to exert a proper moral inhibitory influence. Disproportionate activity of the intellectual and volitional attributes of the psychic over the emotional qualities resulted in a decidedly abnormal reaction. This illustration does, no doubt, seem to be quite extreme, yet it very adequately fits some cases of criminality with which I am familiar.

*Immorality Due to Defect of the Intellectual Sphere.*—There is a wide range in this form which extends from imbecility to a condition of high-grade feeble-mindedness. The individuals who belong to this class fail to see, because of their mental deficiencies, the relation they bear to other individuals, so far as moral and legal obligations are concerned. The crimes of this class are homicides, assaults, rapes, and petty thefts.

*Immorality Due to Defect of the Volitional Sphere.*—This form is one of the most striking and interesting in the field of morbid psychology, and it is to be regretted that these individuals of defective will power are more studied and observed by our legal friends than by the physicians. These persons are easily influenced; they know the difference between right and wrong, and yet are unable to suppress or restrain their inclination to crime; they frequently experience explosions of anger, and at these times commit most atrocious and barbarous offenses against the law. Often they are of remarkable intelligence and mental training, and no better descriptive term can be applied to them than that of "black sheep."

The defects of the will may be arbitrarily classed under three heads:

1. The explosive will. This condition is due to defective inhibition of the intellectual and emotional impulses which restrain the activity of the volitional sphere. Persons of the mercurial type with their hair-trigger temperaments are familiar to us all. In these individuals the motor impulse is translated into criminal acts

before their defective mental mechanism can release the inhibitory social impulses.

2. Exaggerated impulsions. Criminal acts are committed where the normal amount of inhibitory power is present, but is insufficient to overpower the pathologic and exaggerated impulses which lead to criminal acts. To this class of moral defectives belong the dipsomaniac, kleptomaniac, and pyromaniac; when attempting to resist their impulsions these persons experience such physical symptoms as prostration, tremors, and vertigo which disappear when the impulsive act is performed. Unfortunate individuals of this type are aware of the morbidity of their acts. James relates the following cases: A tippler who, after making several unsuccessful attempts to secure liquor, had deliberately chopped off his hand, then called for a bowl of rum, which was obtained for him, and into this he plunged the bleeding member, and then drank the liquor, following the act by the exclamation, "Now I am satisfied." Another dipsomaniac made the following statement: "If a bottle of brandy stood at one hand and the pit of hell yawned at the other, and I were convinced that I should be pushed in so surely as I took one glass, I could not refrain." Similar statements are frequently heard by those who come in contact with inebriates.

3. Arrest of the will or abulia. This defect we find may be due either to an excess of inhibitory ideas or to a lack of sufficient volitional impulse to perform the social duties demanded by society. In this condition the intellectual and emotional spheres are usually nowise affected, but the connecting link between these two or the volitional sphere seems to be lacking. The crimes or misdemeanors resulting from this defect are sins of omission rather than commission. To this class of psychopathic characters who display many anomalies of mind and mood, whose psychologic tensions are lowered, and whose mental perspectives are distorted, may be assigned the vagabonds, prostitutes, fakirs, and dead-beats. Their lives are classically described by Regis as being "one long contradiction between an apparent wealth of means and poverty of results."

*Immortality Due to Defect of the Emotional Sphere.*—In this form the primary or greatest defect of the psyche seems to be in the emotional



sphere. The defect of the emotions may be divided into two varieties, in one of which there is a condition of transient and ephemeral hyperactivity of such emotions as anger, hatred, jealousy, and eroticism which leads to atrocious and abhorrent acts of cruelty. In the second variety we find that the emotional defects are evidenced by a cold, heartless, and indifferent paucity of ethical sentiments. We find in this class men of excellent education and others who, though not conventionally educated, are keen and cunning and possessed of an abundance of native intelligence. Among the immorals of this type are the skillful forgers and swindlers who practice their art of fraud so carefully that they are able to cover their heartless depredations with a cloak of legality and respectability. To this same species of criminals belong the professional gambler, the avaricious capitalist, who corners the necessities of life, and the absconding bank cashier who steals and squanders the savings of small depositors without one pang of conscience or remorse. I do not wish to be understood as saying that all persons who commit such crimes are abnormal, and we should be exceedingly slow to pronounce them irresponsible and undeserving of imprisonment. Tanzi employs the following analogy to describe them: "As there are dogs without scent and flowers without perfume, even so also are there persons devoid of benevolence and sympathy."

I have selected the following cases of constitutional immorality to illustrate each of the four types that I have enumerated. The first case may be classified under that form where the greatest defect of the psyche is shown in the emotional sphere. In this one we find an absence of sympathy and other altruistic qualities, an excessive egotism, and a capacity to inflict physical pain on others in the most predatory manner.

Negro, aged 29 years, convicted of murdering his commonlaw wife, One brother insane. Physical examination: general functions of the body normal; health excellent; physical signs of degeneracy present; head of the plagiocephalic type; marked inferior prognathism; malocclusion of the teeth; palate low, flat, and irregular.

The following is the prisoner's own story of his crime, which he tells in a most indifferent and careless manner, which offers abundant proof that he is morally anesthetic: "She commenced fussing about nothing and then tried to hit me with a rock, but I

caught her, and she lay her head upon my arm in the same way as a chicken's head on the block, like she did not know anything. I then bore down on the razor, and had to get the blood out of my eyes, which made me blind. After this I walked around the house and told the neighbors that I had killed May. I then went into the house, washed my face and finished dressing, fixed my breakfast, and before I had finished eating the police came and got me. Never felt sorry, conscience never hurts me, don't feel guilty of doing any wrong, didn't do any wrong. I ought to be free. The only wrong about it is that I ever came to Indiana."

The prisoner has intelligence equal to the average of his race. Mental processes a little slow; memory good for past and recent events; is perfectly oriented as to time, place, and person. He has no delusions or hallucinations; takes an active interest in his fellow-prisoners; reads library books and magazines to a considerable extent. He will not work, and prefers absolute idleness to employment. He is so constituted that he is devoid of any sense of moral or legal responsibility, and is therefore a dangerous individual, and should be detained permanently in a hospital for the criminal insane.

#### *Constitutional Immorality Due to Defect of the Volitional Sphere.*

Prisoner is a burglar, aged 44 years. His mother died of brain tumor. He received a common-school education. He never has indulged in alcoholic beverages, but has been convicted ten times for larceny, robbery and burglary and, altogether, has spent 18 years of his life in prison. Prisoner is oriented as to time, place, and person; intellectual operations are prompt and accurate—he has no hallucinations or delusions; he knows right from wrong, and that punishment will follow his crimes, but withal he is unable to control his actions when he becomes possessed with an irresistible impulse to commit a theft. He offers the following explanation for his crimes: "I can work very well for several months, then I become possessed with an irresistible desire to steal and rob. This desire is so intense and powerful that I cannot resist it. After committing the deed I experience great relief and satisfaction. I feel no particular remorse or sorrow for my deed, but I do have considerable anxiety and dread that I will be caught."

#### *Immorality Due to Defect of the Emotional Sphere.*

White man, wealthy farmer, aged 35 years, reached fifth grade in school. This prisoner adopted a 14-year-old boy from an orphanage. One day in a fit of violent anger he bit and mutilated the child's body in 200 places. His victim died in two hours after this barbarity. This convict is stolid and phlegmatic, but occasionally displays periods of excessive anger. He attempts to justify his crime by saying that the boy

was stupid, and worried him continually by breaking his farm machinery and his tools.

*Immorality Due to Emotional Defect; Intellect Above the Average.*

Prisoner is 55 years of age, a graduate of the Phillips Academy at Exeter; was surrounded with every advantage and social opportunity during his childhood and youth, and his crimes in no way can be charged to his environment. After graduating from the Academy he was given an excellent position in a manufacturing establishment. At this time his inherent tendencies began to display themselves. He commenced a system of robbery and thievery which he followed throughout his entire life. He has swindled company after company by making false entries on their business ledgers, forged checks, and floated wildcat schemes, but owing to his keen intellect, diplomacy, refinement of manner, elegance of appearance, and shrewd business ability, he managed to keep out of prison until two years ago, when he was convicted and sentenced to the Indiana state Prison for forgery. At that time he was commanding a salary of nearly five thousand dollars, and there was absolutely no other incentive for forging or robbing except the satisfaction of his inherent desire to defraud. He neglected his invalid wife and family while he lavished money upon a public prostitute whom he took on a pleasure trip to Japan, where he resided for two years, living on forged and stolen moneys in extravagant style. This prince of forgers is a model prisoner, and is now employed as expert accountant in the prison office. At the present time there are nineteen indictments against him for forgery in various states. The field of his criminal operations extended from New York to California. He never displays any remorse or sorrow because of his wholesale swindlings and defrauding, but feels that a man of his keen business ability is being very much imposed upon because he was not released at the expiration of his minimum sentence to practice further depredations upon the stupid public.

*Emotional Defect Type of Immorality.*

White man, aged 46 years; claims to have a college education; he has twice been convicted of bigamy and three times of forgery; he has been a ne'er-do-well and dead-beat all his life; has tried nursing, soliciting, lecturing, writing, preaching, and numerous other fields of activity, and has signally failed at each of them. He was not content to confine his fraud and forgery strictly to the financial sphere, so he three times forged ordination papers to preach the Gospel. His deceptions were discovered by his ecclesiastical associates, and he was promptly deposed each time from the ministry; then, as his inherent criminal tendencies were stronger than his inclination for honest work, he resorted to his old occupation of forging checks. This prisoner is a good conversationalist, and by his suave and diplomatic

frankness secures entrance into the most exclusive circles, which promptly suffer from his wily schemes and inborn crookedness.

While under my observation I found him to be a pathologic liar. It seems that he cannot tell the truth even when veracity would be of greater advantage to him. He does not hesitate to practice the lowest forms of calumny, backbiting, and deceitfulness, which stand out in marked contrast to his religious pretensions.

*Diagnosis.*—The diagnosis of constitutional immorality is by no means easy or even always possible, and a careful investigation and consideration of the individual's full life-history is absolutely essential. His life must be reviewed from infancy, and full weight be given to the influences of environment, education, standards of living, and the character of the reactions to the same.

We must be most careful that we do not stigmatize as born criminals intelligent prisoners who may through some unfortunate circumstance or some legal error find their way to prison. Again, we must be exceedingly slow to pronounce as irresponsible those violators of the law who wilfully resort to crime for personal aggrandizement, lest we make a farce of our present judicial system, and thereby endanger the public safety. We must distinguish constitutional immorality from those crimes and misdemeanors which are so often a part of the symptom-complex of essential insanities. The motives and circumstances connected with the crimes associated with ordinary mental diseases generally bear the impress of marked mental derangement, and such crimes are rather characteristic.

The crimes of epilepsy are the most difficult to differentiate from those of constitutional immorality, and, in fact, some moral defectiveness has been thought to be an expression of epilepsy itself; in accordance with this view, Lombroso described criminality as a form of epilepsy, but this position is not altogether tenable.

The criminal offences of epilepsy are homicides, thefts, assaults, arsons, and rapes. Clouston has said, "Murder by an epileptic should be looked upon as being as much a symptom of his disease as is larceny by a general parietic." The criminal acts of the epileptic are frequently committed in the automatic states which precede or follow a paroxysm: such acts often seem to be the result



of coherent and conscious volition, but when the individual regains his normal status we find that there is an amnesia for the period during which the crimes were perpetrated. In states of psychic epilepsy consciousness is many times retained, but responsibility is lacking because of an inertia of the volitional sphere or an insufficient release of inhibitory impulses. The epileptic neurosis must always be considered when some apparently normal person commits an outrageous and cruel act without assignable motive.

Constitutional immorality must be distinguished from the symptoms which attend the prodromal period of hebephrenia which is marked by extreme wilfulness, incorrigibility, impulsive assaults, and sexual crimes. Gradual mental deterioration and progressive indifference to environment will serve as diagnostic factors. The heboidephrenia of Kahlbaum offers another difficulty for differentiation; here we find little or no evidence of progressive deterioration. The misdemeanors and petty crimes constitute the chief symptoms of this psychosis, but the average puerile intelligence and the pettiness of the misdemeanors are such as to distinguish this type from the intellectual and educated moral defective whose violations of law show a keenness of intellect.

The crimes associated with senile dementia are acts against public decency, rape, foolish thefts, and suicides. The crimes attendant upon arteriosclerotic dementia are practically of the same character, with the addition of arson and homicide. Persons suffering with paranoia frequently commit homicides, assaults, and blackmail. The crimes and offences of general paresis are so pathognomonic that there is little chance for them to be overlooked. As a rule, they are foolish and absurd actions. The patient afflicted with the expansive type of this disease undertakes impossible financial operations and indulges in wild speculations without apparent knowledge of the quality of his acts. Debauchery and lewdness usually attend paresis. The nervous phenomena and the positive Wassermann reaction of the blood and spinal fluid render the diagnosis easy and certain.

*Treatment.*—The specific treatment of the constitutionally immoral is very difficult for various reasons. Our prison populations are hetero-

geneous masses composed of insane criminals, epileptic criminals, feeble-minded criminals, habitual criminals, occasional criminals, and criminals by passion, and they are all subject to the same discipline and treatment. Now it is the crime that regulates the term of imprisonment, and not the needs of the criminal. The imbecile offender is condemned to the same rigors of the law as is the educated man, when convicted of the same statutory offence. Our courts are exceedingly loath to recognize constitutional moral defectiveness lest it weaken our method of dispensing justice, and thereby jeopardize the safety of society. Physicians will no doubt, at some time in the future be asked to give data concerning the prisoner's physical and mental status as will lead to a more scientific dispensation of equity. There is no need, however, that our courts become medical clinics, and never should medicine attempt to usurp the prerogative of the law. The proper scientific classification of the prisoner is too ideal to be obtained under the present-day administration of penal institutions.

Several methods of treatment have been offered for the morally insane, but none as yet have passed the limits of the experimental stage. These may be briefly mentioned.

Why should not the born criminal remain in prison as long as he is dangerous to society? We do not release the violent and dangerous insane from hospitals merely because they have been detained there a number of years; then why should we release the instinctive criminal to practice his criminal acts upon the public? We quarantine smallpox, and we exile the leper; then why should we not isolate the incurable moral defectives who disseminate dangerous moral contagion? The question of sterilization needs no other attention than to be mentioned, as it is being brought before the public in the most active way, and, no doubt, when the mists and miasma of superstition and ignorance which now enshroud the subject of heredity have been cleared away, sterilization will no longer be regarded as a predatory measure.

Craniectomy has been tried in children with success in some cases and failure in others. The procedure is not altogether warranted, and to be of any use at all the operation must be performed very early in life, at a time when we are

unable to judge accurately of the moral character.

Lugaro has suggested that the impulsivist should have his thyroid gland mutilated,—care being exercised that the parathyroids are not injured,—with a view to bring about a mild degree of intoxication, not unlike that found in myxedema, which would calm and allay irritable and impulsive tendencies without impairing the integrity of the intellectual capacity. This measure is not being carried out, so far as I know, and before attempting it, the physician should make sure of his legal protection.

We seek to detect abnormalities in the children and, should we find deviations toward criminal tendencies, place them in a healthful environment, and give them such schooling as will particularly develop their social instincts and tend to compensate for their inherent defects. The prognosis, however, is bad, for no amount of training will alter or long hide the vices of organization.

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#### SOME DATA GATHERED IN A STUDY OF 269 MURDERERS.\*

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The efforts of the reformer have failed in the past because he has instituted a general treatment for all with a total disregard of individual study and the physical conditions responsible for a perverted psychology. Scientific treatment is dependent on etiology and pathology. The hope of a more rational treatment for the delinquent classes depends on the study of the criminal as he is and the causes which produced him. Until

this work is accomplished by the research worker of tomorrow and the reformer has the accurate data with which to combat the crime problem, the offender will lack the fullest opportunity to reform and the public the protection it should have. Retribution, determent and reformation are the three objects of punishment. We are accomplishing the first but not the other two. This is because we lack the scientific foundation on which to build a rational treatment.

In presenting the data in this paper, gathered from a prison study of, and acquaintance with, 269 who have committed crimes of violence, I wish to state that it must of necessity lack accuracy. Accurate data of this kind cannot be collected until such time as the state interests itself as much in prevention as it does in dealing out vengeance, and provides for research work as well as for police. I have no apologies to offer in presenting these figures except that I regret they are not more complete and that they do not cover a wider field. The data is very fairly though not scientifically accurate and the figures are not exaggerated. I know my men through daily association with them and at no time have I included the word of a man whose truthfulness I have doubted unless able to corroborate his statements from outside sources.

The table on physique is an abstract from a report published in the *Journal A. M. A.* May 3rd of this year. It is based on the physical measurements of 1,521 prisoners at the Wisconsin state prison. It shows the murderer, at the average age of 35.5 years, a year younger than the average prisoner received. His average height is 67.1 inches, which is .4 inch above that of the average prisoner and 1.1 inch greater than the recidivist or habitual criminal. Even so, he lacks 1.4 inches of the average American height as reported in 1912 by the Actuarial Society of America. He lacks 1 inch of the height of the freshmen at the University of Wisconsin, 1.6 inches of the height of the Harvard student and 2.7 inches of the height of English professional men. His average weight is 142.8 lbs. and differs little from those taken for comparison. His chest measurement of 37.3 inches is large and exceeds that of the recidivist by three inches. The pulse rate of the murderer alone is

\*Read at a meeting of alienists and neurologists held under the auspices of the Chicago Medical Society, June 23-25, 1913.



normal and contrasts strangely with other classes of criminals who average 10 to 12 above normal. His temperature, so markedly subnormal, is a subject for speculation and a phenomenon I am unable to explain.

Table two records the more prominent physical defects. A cardiac lesion is found in 17 per cent., and a pulmonary lesion in 5.7 per cent., which is 5 per cent. less frequent than in the average criminal. Active and old pulmonary lesions, so common among criminals, I find are less frequent among this class. Defective vision is less frequent than in the average prisoner in the ratio of 17.5 to 31.9 per cent. It will be noted that a history of frequent headaches, insomnia and periods of depression are common. The teeth are bad through neglect in about half of the cases.

Under *medical history* I have tabulated the nine diseases, a history of which is most commonly found, together with injury to the head. Venereal disease stands out most prominent at 28.4 per cent, yet lacks 12 of the percentage of the average criminal and 22 of the recidivist. The infectious diseases are, no doubt, a factor in individual cases though their enumeration is of little value.

The table on heredity tells its own story. It is not exaggerated, and I am convinced that the investigations of a field officer would raise these figures, for many of the men are unfamiliar with some of the branches of their family. In taking the family history I have included brothers and sisters, parents, uncles and aunts, grandparents and cousins. Under the heading "intemperance" the figure relates to alcoholism in the father only. The family history of epilepsy, insanity and other criminals is from 3 to 4 per cent. more frequent than in the average criminal. Other criminals in the family are found 5 per cent. less frequent than among the recidivists.

*Developmental influences and early environment* should always be considered in conjunction with heredity. The degenerate with weakened inhibitions may be saved when these have been favorable. When they are not, he is lost. All the inherited stability of an irreproachable ancestry may be swept away when these are unfavorable. The results of an acquired are not unlike those of an inherited degeneracy. Pov-

erty, city streets, bad associates, the early loss of parental influence, lack of home influences, the early acquirement of vicious habits may undo the breeding of centuries. These influences have been of less importance in molding the Wisconsin murderer, however, than with the other classes. But 31.8 per cent. were city bred, while 46.4 per cent. of our prisoners and 65.8 per cent. of our habitual criminals, had all the bad associations of city streets for a boyhood playground. It will be noted that 49 per cent. lacked some degree of parental supervision through death, desertion or divorce. In 17 per cent. home relations were unpleasant. The use of alcohol and tobacco before the fifteenth year is shown by the figures given.

About a third of these men have never been to school, a half have reached the fourth grade and but 3.2 per cent. have finished high school. Nearly a quarter of those who attended school give a record of truancy. Before the age of twelve was reached 55.7 per cent. were at work—before fifteen 90.9 per cent. A half have never learned a trade or become skilled in any line of work, and 43.2 per cent. have never worked at one job a full year. Nearly half have never saved at any time in life. Compared to other classes of criminals, while the murderer has begun work at a younger age, his industrial record is better. I find that 93 per cent. of our recidivists have been unsteady in their work and 91 per cent. have never saved.

The *habits* of the murderer compare very favorably with other classes of criminals, bad as they are. Alcohol has been used to excess by 41.5 per cent., while but 12.6 per cent., are abstainers. Drug habits are, no doubt, much more frequently found among the murderers of a large city. While 37.5 per cent. visited prostitutes regularly; and 40 per cent. spent their evenings in saloons, at cheap shows or on the streets; this percentage is nearly doubled in some other criminal classes. The suggestions received by these associations will be readily understood. Suggestive and sensational literature only, has been read by 10.8 per cent of these men.

The last two tables given require little comment. The figure on divorce and separation is no higher than found among the other classes.

## SOCIOLOGY.

The theory and practice of sociology is now receiving great attention from physicians and from philanthropists. Sociology is the science of society. It comprehends all society, and society for all time. It undertakes to explain the origin and growth and condition of human institutions. Sociology embraces the study of society in the entire range of its history. The social sciences include history, jurisprudence, political economy, criminology, penology and various departments of knowledge concerning social relations. Sociology has become a very popular subject. College students, philanthropists and officials having the immediate care of the different kinds of dependent persons, are cooperating theoretically and practically in the study of sociology.

The family is the natural and the fundamental unit. It must be maintained and strengthened and perfected. The physical, the mental and the moral welfare of humankind greatly depend on the harmony and the stability of family life. I inquire if the establishment of institutions of various kinds, has not a tendency to impair the independence and the self-reliance of the family.

Eugenics is a new word, it is found in the daily and the weekly papers, in popular magazines, in medical journals. Already the subject is treated in books; women and children are trying to guess its meaning. Books on this subject in the public library are in great demand.

The subject of preventing mental disease would be more simple, and the remedies more easily applied, were it not for the fact that degenerates are not infrequently found in families where the parents are educated, prosperous and temperate, apparently well qualified to have and to rear children. The causes and the prevention of insanity are far-reaching, complex, and very perplexing subjects. Insanity is related to idiocy, imbecility, epilepsy, alcoholism, prostitution, syphilis, infanticide, suicide, homicide, to crimes of various kinds, and to some, if not to all the common forms of degeneracy.

## HEREDITY AND ENVIRONMENT.

Heredity and environment vie with each other in comparative importance. At this time I give no particular attention to heredity as a cause of degeneration, nor will I concern myself about the prevention of heredity, but will keep in mind

environment in its most comprehensive sense, as it contains many of the exciting and the preventable causes of physical, mental and moral degeneration.

In speaking briefly about the prevention of insanity and other kinds of degeneration, let me first mention home training, good breeding, which means good care by parents, as a kind of environment which goes a long ways toward preventing derangement, or failure in life on account of bad self management. Not only in infancy but also up to the age of majority, every child needs a good, healthy mother and father, also a good, comfortable, attractive home to live in, to love, to refer to, and to return to as long as the parental roof is maintained. The son and the daughter are entitled to a good example; to wholesome advice, and to various kinds of help from both parents. In the model home, there is harmony, patience, the practice of self-denial and of self-control by all members of the family. Each one delights in the happiness of the others and all contribute to the general welfare. Too much stress cannot be laid on the impress made by the mother upon her child during the first five or ten years of life. To a great degree, the mother is responsible for the moral character and for the good citizenship of her children. The foundation stones laid by her are obedience, kindness, modesty, politeness, reverence, truthfulness, honesty, self-reliance, self-respect, self-control; mingling the precepts of the Bible with common sense. "Train up a child in the way he should go and when he is old he will not depart from it." Like produces like, not only physically, but intellectually and morally. Parents ought to realize their obligations to their offspring, not only to feed them, clothe them and send them to school, but also to be their daily and their evening companions, until they mature to the age of independent manhood and womanhood.

We can learn from reports how many insane there are in our state and in our private hospitals. So far as the patients in these hospitals are concerned, the vast majority of them are chronic and incurable, when admitted. There are various reasons why this is true. Insanity develops insidiously; it is largely a matter of conduct: therefore insane persons are not placed



in hospitals until the family and the community are fully convinced that the person is insane. Again, persons dread to go to a state hospital for treatment and relatives procrastinate about sending persons to a state hospital until they become too much deranged or too unmanageable to be longer cared for at home.

About one-third of all the insane in the state hospitals are classified as cases of dementia praecox.

#### THE TEACHER'S DUTY.

One way to prevent this form of mental impairment is for parents, teachers, in the common schools, and instructors in colleges, to dissuade young people from attempting the kind of an education to which they are not naturally adapted; at the same time, to help them to choose a vocation, or a life work, in which they are likely to succeed. In mechanical and various other semi-manual or muscular pursuits, a large proportion of men and women are required. They should be assured that such business is just as healthful and as honorable and as remunerative as professional or mercantile life. I cannot now consider many of the factors of environment which are causes of degeneracy but it is safe to say that the exciting causes of mental impairment may be largely eliminated by right living in suitable homes and by constant employment.

#### WAYS AND MEANS.

In suggesting a plan to coordinate the agencies already established and to utilize the experience of institution officials and various charity workers, I will cite the conditions in my own state to illustrate the subject.

The institutions in Iowa for the care of the defective, the incorrigible and the vicious, are much the same as in other states, and are divided into four kinds. First, those conducted and maintained by the state; second, by the county; third, by the city; and fourth, private establishments including the work done by churches and fraternal organizations. All of these should be skilfully coordinated and directed in accordance with scientific principles. In Iowa, we have a state agent in connection with the Reformatory for Girls, and another one in connection with the Reformatory for Boys, besides a special agent to place and to guard children who are taken out of the orphans' home. There is an inspector

employed by the state to visit twice annually the county homes containing insane persons and private establishments containing persons who are mentally unsound. This same inspector also visits all semi-private homes for children. The board of parole for prisoners who are in our penitentiary and in our reformatory for young men and first offenders, has an agent to follow up and visit and recommend the return to state care or the permanent discharge from it, men who are out on probation. Besides, there is, as in Kansas and a few other states, a branch of the society to befriend ex-prisoners, immediately upon their parole or upon their discharge from the penitentiary. There is a representative in Des Moines who keeps open house for this kind of men and cooperates with the Board of Parole; he finds employment for discharged convicts; and serves as a first friend and a confidential adviser, so that such men may become self-supporting and may become good citizens. This is done as far as practicable without revealing the history of the man to any of his associates except perhaps to his employer. I will not enlarge upon the functions of county supervisors, overseers of the poor, nor those of city commissioners, including the department of public safety, neither will I stop to describe the work done by semi-public organizations such as Associated Charities, the Humane Society, brotherhoods of various kinds, of fraternal organizations and of the churches.

#### FOLLOW-UP CARE.

I recommend that besides the *after care* of persons who are discharged from the institutions above mentioned that after care be also given to patients who leave hospitals for the insane. I would have after care given to persons out on probation or discharged from each of the other state institutions. I would proceed to have the work of state agents extend to making the acquaintance of the relatives, the homes and the local conditions of all the inmates who are still present in the several state institutions: thus state agents would become field workers, would from year to year become more and more thorough and comprehensive in their investigations. They would become skillful advisers and helpers, not only of discharged persons, but of their relatives, their employers, and of the other associates with whom these reinstated citizens live. If

desirable, they would be prepared to furnish reliable information and valuable suggestions to local officials who may be called upon to deal with such cases. This after care would help to make the home life in each case prove successful and public life to become permanent.

These general state agents should, from time to time, visit the state institutions with which they are cooperating, consult with the men in charge of them and develop the function of *fore-care* as well as *after care* for the various kinds of invalids, who are found in the community.

Let me say just one word about the subject of guardianship.

There are two kinds—natural guardians and legally appointed guardians. Parents are the natural guardians of children until they attain their majority. The children in turn, are the natural guardians of their parents, when they become impaired by the infirmities of old age. Both parents and children are the natural guardians of invalids in their home just as much as they are the natural nurses for members of the family who become sick.

The state should be districted and the general state agent should be centrally and conveniently located; as this kind of work develops and the legislature provides more and more money to meet the expenses of it, sufficient general state agents should be secured to do the work indicated thoroughly and scientifically.

#### A MEDICAL SOCIOLOGIST.

Furthermore, in order to learn how to prevent insanity and other kinds of degeneracy, and in order to inform the public about the prevalence of degeneracy and about hygienic rules which will help to prevent degeneracy, I would create another state office, and have it permanently filled by a well qualified physician who is especially trained in the science and the art of sociology. I would have him occupy an office in the state capitol, name his work that of preventive medicine and statistician. The physician occupying this new position should cooperate with the general field state agents, with the board of control of the state institutions, with the secretary of the State Board of Health and with the heads of the several state and other charitable institutions, in determining how to prevent idiocy, imbecility, insanity and other

kinds of degeneracy. He should also cooperate with physicians and men and women of influence in maintaining the home life and in assisting relatives where it is possible and desirable to do so to care for mental invalids at home, in order that it may not be necessary to enlarge and multiply our public institutions indefinitely, and in order that the expense of maintaining them, may not become unbearable.

#### DISCUSSION ON THE PAPERS OF DRs. ANDERSON, BOWERS, SLEYSER AND HILL.

(Abstract)

Dr. Bayard Holmes, Chicago: The matter of our delinquents is inseparably connected with the matter of our defectives, and we must study them together. And it also brings to us the great lesson that at the present time the thing which is the most necessary, both in regard to the delinquents and the defectives, is investigation and research. We are about to sterilize our criminals and our insane, and we are about to produce euthanasia in our idiots, feeble-minded and incorrigibles, and yet we do not know just exactly what these conditions are for which we propose radical measures. Why is it that fifteen thousand youths of the country come down with a disease which puts them in the institutions for the insane for the rest of their lives? We are expending for the care of these people in the state of Illinois, for example, something like four million dollars a year—to take care of them, feed them, clothe them, watch them, and house them, and what are we spending for finding out what is the matter with them? Why can we not, then, take the lesson from this subject, that we must establish with every institution of custody an adequate institution for research for the cure and prevention of the conditions for which custody is necessary?

Dr. A. E. Sterne, Indianapolis, Ind.: So far as the sociologic problem is concerned, I think Dr. Hill's paper touched upon that so thoroughly that very little remains to be said on that particular phase. I think we are all agreed that the home is the primal place to enact reforms, where reforms are needed. The ideal home, that is.

We are spending enormous sums to correct things which should never exist instead of going to the bottom and trying to prevent the situation that has arisen and that will continue to grow worse.

We should report venereal diseases. Such a law has to be enacted. There is no reason why our state board of health should not take up this whole problem, if it were managed right. As regards the concrete questions that were brought up, the question of moral insanity appeals to us in our medical capacity tremendously.

I agree with Dr. Bowers and other penologists that criminals are largely defectives, are largely sick individuals, but that question cannot be solved from



that standpoint alone. By taking too broad a viewpoint of the question of the responsibility of an individual we can do more harm than good. When once we are convinced that an individual is absolutely irresponsible for the crime he has committed, it is an essential part of our medical duty to defend that individual, but it is not our duty to defend an individual simply because, if we don't do it Dr. Brown will do so instead of ourselves for a certain remuneration. When an individual has a delusion that dominates his daily life, then that individual is absolutely insane and irresponsible, whether he is acting under the influence of apparent delusion or has no delusion. But an isolated insanity of criminal type, unassociated with deterioration, is not a condition of mental aberrancy, and does not constitute irresponsibility. There is in Dr. Bowers' care an individual, whom he did not mention, who committed a most atrocious crime under the influence of an apparent idea. That was the first case in Indiana committed under the law for the detention of the criminal insane. I was influential in sending him to Michigan City, because he was clearly insane—dominated by a delusion. He murdered his child atrociously, and he was clearly irresponsible. But there are so many crimes committed, and so many criminals commit crimes for personal gain, that I think we ought to take a fairly strict view of the situation. In Indiana I am gratified to say that we have taken a step forward, not yet in Michigan City, but in Jeffersonville. We have there a state psychologist. He was a professor of psychology in the state university and left a very remunerative position to take up the work in the state reformatory, in order to study the psychology of criminals.

I think Dr. Hill and the discussions have at least touched upon the fundamental keynote, that we have got to strike for a better quality of individual, an individual who is self-restrained, who will train his children to self-control, and to moderate wants and moderate desires. However, the chief trouble is that we are all living beyond our means, practically universally, and we are getting into an artificial atmosphere all around, which makes for trouble.

Dr. H. C. R. Norriss of Enderlin, N. D.: No one man can solve the problems referred to by the last speaker. The matter of quarantining venereal disease is almost impossible, because a large proportion think that they never recover, especially from gonorrhea. The necessity for investigation, of course, exists, and it requires team work. One man alone cannot do it, and we cannot do everything at once. A few members of the committee drew up a recommendation, which I will read to you, as follows: We, the alienists and neurologists of the United States, meeting under the auspices of the Chicago Medical Society, and appreciating the sociologic value of the movement inaugurated by this society, recommend that it call a meeting during the month of June, 1914, in this city, for the further consideration of the subject of prophylaxis of mental disorders, and we further recommend

that the governor of each state be requested to appoint at least three delegates from the state at large, and one delegate from each institution in which are confined the mentally deficient. That the greatest conceivable benefit may be derived from this movement, we respectfully request that the Chicago Medical Society call an international congress of alienists and neurologists for July, 1915, to meet in Chicago, and that it communicate with the various governments, requesting them to send delegates to same.

Dr. Paul E. Bowers, Michigan City, Ind. (closing the discussion on his part): I hope I have not given the idea that I think all criminals are insane or irresponsible. I only mean that a few are. I believe in punishment and I believe in taking the criminal from society and protecting society. I am not at all in favor of a mawkish, sickening sentimentality that would release every live man from prison because he has friends and politicians behind his back. I believe in prisons, and the responsibility of criminals, and my remarks had only reference to the few isolated cases.

Dr. G. M. Hill, Des Moines, Iowa (closing the discussion on his part): I am pleased to have had so much said concerning the object of this meeting. I have nothing to add to what I have already said in my paper, except one point with regard to the population of our cities. We know that the population of the United States, in 1910, showed that cities were rapidly growing, while the population in the country was not growing, and in some agricultural states it was actually diminishing. Furthermore, it can be easily proven from the statistics that the increase of population in the United States, or in any state, or in any city, is rather due to the accession of aliens than to the increase in births of those who have been living in the community. Therefore, one of our difficult problems in taking care of defective persons in the various states is the ability to provide sufficient accommodations in the state institutions for all persons who cannot be well taken care of at home or in the community. Keep in mind also the fact that most of the immigration coming to this country locates in cities. These immigrants do not own real estate and to no considerable extent pay taxes, but those who have lived longer in this country and own real estate are the ones who pay the taxes and who support the institutions. Therefore, while the proportion of foreign-born persons who become criminals is 35.7 per cent, there is no such proportion of foreigners who help pay the taxes to support the state institutions.

Dr. Rock Sleyster, Waupun, Wis. (closing the discussion): I have nothing further to add to my paper. I am very glad to see the interest that these papers have awakened, and I think that putting criminology on a scientific basis would only come through this awakened interest in the medical profession, getting down to the bottom of things, studying the etiology and working up from that point.

## DETERIORATION IN DEMENTIA PRAECOX.\*

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"Dementia praecox consists of a number of conditions whose common characteristic is a peculiar destruction of the inner associations of the psychic personality, with especially marked damage to the emotions and will."—(Kraepelin.)

Much has been written of this disorder since Kraepelin first formulated the group in 1896 and many assaults have been made upon the term with the intention of showing that it was not a correct one, and especially referring to the term dementia.

Dementia formerly referred to almost any mental disorder. Later it referred especially to the acquired condition and was distinguished from idiocy, which was a congenital state. At the present time one regards dementia as an incurable non-congenital condition of enfeeblement of mind.

Kraepelin says that dementia varies according to the psychosis preceding it, and that there are as many varieties of dementia as there are psychoses. In dementia praecox there is no single characteristic end state, but rather a number of conditions which vary greatly in intensity from time to time. The enfeeblement concerns itself rather diffusely with the individual's personality and his instincts and to a much lesser degree with his intellect.

The question as to whether dementia praecox is a disorder from which one can recover has caused many studies to be made. Kraepelin says that some of his katatonic and hebephrenic cases recover, but none of his paranoid cases ever recovered. Most of the observers have found the most recoveries in the katatonic cases, but few of them have ever stated that any case of paranoid dementia praecox have recovered.

Bleuler says that he has never seen a case of dementia praecox entirely recovered. In practically every case he has found some defect. The defects in the end state of dementia praecox consist of changes in the patient's capacity for work, in his behavior, and in his relations to

his environment and to his family. In judging of the condition of the patient the personal equation comes into play to a very great extent, and it is very difficult to compare the findings of different men.

Whether a patient who has passed through an acute psychosis and returns to some work which is not so complicated as that which he has formerly done, but which will enable him to earn his livelihood could be called recovered depends, in a great measure, upon the man who is examining him. It does not seem, however, that the man who is not able to take up his work where he left it, nor to continue in the same environment with the same ability as he had before, should be considered entirely recovered.

In many cases of dementia praecox there is a peculiar seclusiveness and inaccessibility, which has been shown by Hoch and later by Abbot and Bond, to have developed early in the careers of these patients, who showed, before the beginning of their psychosis a shut-in personality.

Some cases of dementia praecox, apparently recovered, show this defect very markedly. These cases Kraepelin considers to have recovered with defect.

In speaking of the patient's condition at any given time, the most common fashion is to speak in terms of dementia. It is to be doubted exceedingly whether one may consider a condition which is constantly changing in the terms of a permanent condition. Cases of dementia praecox who are apparently greatly demented, may improve to a very great extent, and to say that the individual at one time is greatly demented and at a later date is only slightly so is a mis-use of the term. Every one has seen cases of dementia praecox which have greatly improved, sometimes permanently, after some physical disease or some mental shock. This brings up the question as to whether the dementia can be definitely determined in any given case. The disorder may, apparently, progress or recede. Consequently it would seem that at the present time and with our present methods and knowledge of the condition we should not speak of the disorder in terms of dementia.

We may, however, make a comparison between the state at any given time and the normal condition, but this requires a comprehensive view

\*Abstract of paper read at the meeting of Alienists and Neurologists at Chicago, June 23, 1913.



of his life and habits before the onset of the disorder, and a real knowledge of the present condition. This requires a comprehensive anamnesis which must include the following points which I have taken from a scheme of Hoch and Amsden:

- First, the intelligence and ability.
- Second, the output of energy in work and play.
- Third, the habits and activity.
- Fourth, the moral standards.
- Fifth, the general cast of mood.
- Sixth, the attitude toward self.
- Seventh, the attitude toward others.
- Eighth, reaction attitude toward self and others.
- Ninth, the self assertion.
- Tenth, the adaptability.
- Eleventh, the position toward reality.
- Twelfth, the sexual sphere and the attitude toward this.
- Thirteenth, the balancing factors of life.

Such an analysis of the habits and emotional reactions before and after the attack will not always give us a clear and accurate account of the condition after the psychosis has lasted for several years. There is a certain group of cases of dementia praecox who do show intellectual defects, and these defects can best be tested by means of some intelligence tests such as those devised by Ziehen. These tests will give a fair idea of the individual's intelligence and ability; but in working with intelligence tests, especially in cases of dementia praecox, great care must be taken in judging results, and it must constantly be borne in mind that normal individuals may make any mistake that an insane person does.

With all of our examinations and investigations, however, we can not determine the degree of dementia, but only the condition of the patient at any given time. We can not say, in any given case of dementia praecox, that the patient will not improve, nor can we say that he will not deteriorate still more.

We must conclude then, that while in dementia praecox there is undoubtedly some permanent deterioration, with our present methods, we are not able to determine accurately just what this is. We are not able to say when a patient has reached a permanent end state.

After many examinations and observations of cases one may conclude however, that practically

in every case there is some deterioration present, but it is very difficult to determine in exactly what respect this deterioration is permanent. Consequently it would seem preferable not to speak of the condition of the patient suffering from dementia praecox in terms of a permanent end state, but rather in terms descriptive of the condition as it appears at any given time.

#### WASSERMANN REACTION IN DEMENTIA PRAECOX.\*

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Since the establishment of complement fixation in the diagnosis of syphilis, a new avenue of research has been opened in psychiatry and there have been widespread and awakening revelations made, as to the part that syphilis plays in this particular field of medicine. Especially has this been true of one type of psychosis, namely, general paralysis of the insane.

The intricacy of the structure of the brain, the organ of the mind, has always tended to retard definite conclusions in the field of psychiatric research, but in view of the facts revealed by modern medical science, we are better able to understand the close alliance of syphilis with many heretofore obscure psychical and neurological conditions. Research along this line has recently led to the finding of the treponema pallidum in the parietic brain by Noguchi.<sup>1</sup> Although there was much cumulative evidence that some sort of causative relation existed between paresis and lues, we were still in darkness until this fact had been more definitely established. Only by work along this line in other psychoses will we be able to fathom the true nature of psychic diseases and not alone by clinical investigation.

Dementia praecox is not merely a condition as was thought by Pick, who first used the term in 1891, and whose ideas were later developed and expanded by Kraepelin, but is a morbid entity, and as distinct a form of dementia as is paresis.

Although dementia praecox has many of the features of a purely developmental anomaly, on the other hand, pathologically and clinically it

\*Read at a meeting of alienists and neurologists, held under the auspices of the Chicago Medical Society, June 23-25, 1913.

has many of the features of a true disease. The pathology has as yet shown nothing pathognomonic, for in fact there is but little pathology of mental diseases aside from dementia paralytica, in which condition certain histologic changes have been observed. Changes have been found by many investigators, but so far nothing distinctly characteristic, and it has not as yet been possible to make a positive diagnosis from the pathologic findings alone. Chiefly from the work of Alzheimer there is much evidence pathologically of an active process as well as clinically from the fact that the onset of the disease is at times rather sudden. It progresses and has remissions. It may be checked and recoveries may even take place. Often we find physical disturbances, such as cyanosis, edema, increased reflexes, muscular irritability, disturbances of nutrition, menstrual disorders, abolition of cutaneous reflexes, and great variations in the reaction of the pupils to light and accommodation. It also presents true psychical disturbances and may terminate in a complete destruction of intelligence, which has a resemblance to, and really is, the epilogue of a true disease.

Studies in metabolism in this disease have been many. The blood has received attention. Every constituent of the urine has been estimated, and wide reaching conclusions drawn. The various glands with internal secretions, especially the thyroid and suprarenal glands, have furnished ready material for hypothesis. Most noteworthy has been the chemical analysis of brains as studied by Koch,<sup>2</sup> in which he revealed a variation in the neutral sulphur fraction; in other words, a difference in chemical composition of a nature not so far observed in other forms of insanity, or in cases free from mental disease. Research, however, along all these lines has as yet not come any nearer the solution of this problem.

The causes usually assigned as productive of dementia praecox are very numerous, as, psychogenic, hereditary, toxins, exhaustion, puberty, auto-intoxication, etc. It matters not how we consider this disease, be its pathology acquired or be it developmental, the various pathogeneses have up to the present time been nothing more than hypothetical conjectures.

Meyer,<sup>3</sup> in his masterful studies of the psychogenic theories of dementia praecox, admits that they do not explain the basic factors of the disease, for, back of all as to the question of ultimate cause we are left in a purely speculative position.

He believes, as you know, that dementia praecox is a disorder in which there are certain types of reaction which are almost pathognomonic, and that these types are an inextitable and natural development from the deterioration of certain habits; and this deterioration is due, partly to developmental defects of the mental endowment; and in part at least, to a clashing of instincts and to progressively faulty modes of meeting difficulties.

There is no question that the dynamic value of psychic factors in the reactions of these patients is of the greatest importance, but they are not the fundamental factors which explain the changes of reaction type which are noted in dementia praecox.

Kraepelin's hypothesis that dementia praecox is due to an auto-intoxication produced by poisons which are elaborated in the sexual organs, has had many advocates, because of the frequent appearance of the disease during puberty, the disturbance and variations that it determines in the generative functions, and on account of the infrequent occurrence of the specific syndrome in aged persons.

That dementia praecox is not a reaction entirely to external etiologic factors, but is rather, at least in part, an endogenous degeneration which represents the loss of adaptability to environment, has most ably been brought out in the work of Hoch.<sup>4</sup>

The work of Jung is admirable. His conception of this disease is that it is largely of a psychologic nature. He has shown, that the symptoms consist in the outcropping, in a peculiar, distorted and frequently symbolic form, of the thoughts, ruminations and longings of the individual, and on analysis of the individual's life, we find that these elements have been a disturbing factor throughout, and this disorder appears to arise in individuals of certain temperamental peculiarities.

Recognition of the defective constitutional make-ups in these cases has not as yet thrown



any light on the etiologic factors in the production of this so-called dementia praecox soil.

Endogenous causes which are connected with the individual constitution are operative in any environment and if they are traced back to their origin in the ancestry, it is seen that they also come from without and that they are ultimately not essentially different from exogenous causes.

It appears to me that in the consideration of the etiology of any mental disease, we are dealing largely with the etiology of the predisposition and direct causes, no matter how far reaching they may be, are not able to call forth a mental disorder without this predisposition.

Under the same conditions of environment there are those who become insane and those who do not. The delirium of typhoid fever and of other infectious processes is not merely an expression of the severity of the infection or of the degree of the fever; it is also in part dependent upon the manner in which the brain reacts, or the physical or psychical personality of the patient.

These diathetic predispositions have their origin somewhere and behind all this there lies a hidden cause which is producing these conditions.

The chemistry of the brain is as yet too little known to materially aid us in explaining certain organic pathologic changes noted in this disease, and it appears to me that the destructive brain changes noted, are the cause of the manifestations observed in dementia praecox rather than the result, as is believed by some, for we know that clinically such manifestations are not present in normal individuals.

As I have already stated, this psychosis is considered by some a purely developmental anomaly, and although it may be considered as such in its ineptness, during the course of the acute phase of the disease, there is in a sense an active process going on, which is directly responsible for the neuronie decay which has been found in its pathology. The pathologic anatomy although as already stated, not pathognomonic, reveals three different types of lesions, namely, those of congenital abnormalities, those connected with the onset and course of the disease and consisting of a granulo-pigmentary atrophy of growth of neurones, and those changes

observed in other parts of the organism. The localizations of these lesions being more pronounced in the association paths, as first noted by Alzheimer, explains in a manner the chief symptom of the disease, namely, the dementia, which in all probability is due to a loss or degeneration of paths of connection between the cells of the cortex of the brain which interferes with a free communication of these cells with each other.

We know from our observation of syphilitic changes in other conditions, that hereditary syphilis acts in a three-fold manner. At times it calls forth specific changes in the brain, as gummatous processes in the cerebrum and meninges, hydrocephalus, etc.; at times it brings about diffuse so-called non-specific alterations, which resemble the acquired parasymphilitic conditions; and then finally a general retarded developmental condition which fundamentally in many ways resembles just what we have been able to note in the pathology of dementia praecox.

In the first two conditions the Wassermann reaction has been found positive quite regularly in the serum and fluid by Lippman,<sup>5</sup> and Ziehen,<sup>6</sup> and it was also observed by the former author that in long existing hereditary syphilis the Wassermann test finally gave negative reaction.

I contend that it is just these long existing hereditary cases, and especially where syphilis is or has existed in an attenuated form, that are the basic factor in the production of the dementia praecox soil in quite a large per cent. of these cases.

With the finding of the positive Wassermann reaction in a certain percentage of cases of dementia praecox, I believe we have the clue to a nearer solution of the question as to the etiology and nature of this disease than we have ever had before, notwithstanding the most extensive and exhaustive research into its etiopathology along other lines.

Although the specificity of the Wassermann reaction is at the present time quite well established, it must be taken into consideration that this reaction has been noted in other conditions than syphilis, and also that different investigators differ widely, and in fact report almost contradictory results. Thus, Plaut,<sup>7</sup> in examination of the blood serum in one hundred and

fifty-nine cases of paresis, found a positive reaction in 100 per cent. while other equally competent investigators as, Nonne, Marie,<sup>8</sup> and Levaditi,<sup>9</sup> obtained positive findings in from 59 to 90 per cent.

As yet the efficiency of the Wassermann test has not been improved so that in every case of syphilis, be it acquired or congenital, active or latent, a positive reaction is obtained; so that as a diagnostic means a negative reaction offers no guarantee of the absence of luetic infection.

Since Noguchi and others have been able to obtain the spirochaeta pallida in pure culture, it is to be hoped that an antigen prepared from such culture will be efficient in complement fixation in syphilis, and will make it possible to consider the test as a true antigen-antibody reaction. Although this as yet has not been practicable, it is not absolutely essential as other spirochaetal diseases as framboesia, sleeping-sickness, etc., in which also positive reaction has been noted, are not contenders in this country in the diagnosis of syphilis.

The other diseases in which the reaction occurs can as a rule be easily differentiated and the numerous discrepancies that have been noted at times may generally be attributed to numerous possibilities of error due to the complexity of the technique of the reaction. It must also be borne in mind that by varying the proportions of complement or of the hemolytic amboceptor, it is possible to make the reaction more or less sensitive, although its reliability is not altered.

The following are some of the diseases in which a positive Wassermann has been noted by various workers:

Marchildon,<sup>10</sup> has observed it in malaria, recurrent fever, appendicitis, cancer and typhoid. Welchmann and Meier,<sup>11</sup> have reported positive results in leprosy. Halberstaedter, Mueller and Reiche,<sup>12</sup> have reported reaction in measles, varicella and pertussis. Semon,<sup>13</sup> has found it present in eclampsia and Boas and Peterson,<sup>14</sup> have noted it in patients following chloroform narcosis. Boehm,<sup>15</sup> and Reinhart,<sup>16</sup> in cases of malaria and beriberi; Newmark,<sup>17</sup> in gliosarcoma of the brain; and Kaplan,<sup>18</sup> in cases of jaundice. Citron,<sup>19</sup> Collins and Sachs,<sup>20</sup> have noted positive findings in aortic insufficiency, and Major,<sup>21</sup> observed it in twenty-one out of twenty-two cases

of aneurism, mostly of the aortic arch. Simon,<sup>22</sup> also has observed in a not inconsiderable number of cases a positive reaction in cancer.

We must also take into consideration that the finding of the Wassermann reaction in certain conditions and diseases does not necessarily exclude syphilis, as many cases cited above, especially those of aortic insufficiency, aneurism and jaundice, are of probable syphilitic origin, although the patient may not necessarily give a luetic history.

With the exception of the conditions noted, the consensus of opinion is, that when the positive Wassermann is found on repeated examinations by competent trained laboratory serologists, the individual has been infected at one time or other by the spirochaeta pallida, and still either harbors the active foci of the syphilitic agent or syphilitic products, irrespective as to whether the clinical symptoms are only very slight or are not present at all.

In formulating the following statistics, the blood was examined by the Wassermann test in two hundred and fifty-two cases of dementia praecox, and simultaneously with this, the test was also applied to the cerebro-spinal fluid in ninety-five of these cases. In the latter, the fluids were examined by lumbar puncture, from five to ten c.c. being removed and the patient confined to bed for twenty-four hours after the operation. In two of the cases we noted quite serious collapse and the patients were not able to be out of bed for ten days or more, but in the remaining cases, aside from a slight headache, dizziness and occasional vomiting, there were no ill results.

The butyric acid and ammonium sulphate tests of the fluid were also made, as was likewise a cytological count for the estimation of lymphocytosis.

The cases to which these tests were applied were all well recognized types of this psychosis and represented cases which had been received in the Central Indiana Hospital for the Insane within the past six years. None of the older cases of so-called secondary dementia, which could possibly be considered as cases of dementia praecox, were included in this series of investigations. Furthermore, all specimens that presented a reaction merely faintly positive, were counted nega-



tive in order that our estimates might be as nearly accurate as possible. Specimens of some cases that were questionable were repeatedly examined, and also new specimens obtained until an accurate and definite conclusion could be reached. Also parallel with these experiments, we tested out for control some normal sera and fluids, as likewise the sera and fluids of from ten to twelve cases of syphilis or paresis which we knew to give a positive reaction.

The principle of complement fixation in the diagnosis of syphilis as taught by Wassermann, is so familiar and the technique so well known, that it is unnecessary for me to enter into the details, either of its original form or its later modification.

The Noguchi modification of the Wassermann was used in making these tests as we consider it one of the most accurate complement fixation tests for syphilis, as well as one of the most convenient. We used antigen prepared from non-syphilitic tissue, beef heart being employed.

The Noguchi butyric acid test was also applied, in which one part of spinal fluid is mixed with five parts of a 10 per cent butyric acid in physiologic salt solution. This mixture is heated to boiling and immediately one part of four per cent sodium hydrate solution is added and the mixture again boiled for a few seconds. We used from one-half to one c.c. of the spinal fluid in large test tube. In this test the presence of an increased content of protein in the fluid is indicated by the appearance of a granular or flocculent precipitate, which gradually settles under a clear supernatant liquid. This precipitate appears within a few minutes in a specimen containing considerable increase in protein, while two hours may be required to obtain a distinct reaction in specimens weaker in protein. Normal fluid may give a turbidity, but the granular precipitate does not occur at all or only after many hours. This protein, called by Noguchi euglobulin, was not observed in a single case.

In several cases the Robert's nitro-magnesia test for albumin was made and an increase of albumin was noted in some cases. This finding was estimated by the appearance of the ring. Normally the fluid contains a very small amount of albumin, so small that the reaction by this test is always very faint.

The Ross-Jones test we found very satisfactory. In this test clear cerebrospinal fluid is cautiously added to a saturated solution of ammonium sulphate in such a manner that the fluid lies on the reagent without blending with it. If the reaction is positive, at the junction of the two fluids a definite, sharply defined, thin, white film forms immediately or almost immediately, which when looked at against a dark background has very much the appearance of a cobweb. This test was found positive in two cases, and one of these also presented a positive Wassermann in the blood and fluid.

The cell count was made by the French method in which three cells or fewer in an oil immersion field (1/12th oil immersion objective, 1 inch eye piece B. L.) was considered normal; four to six cells slightly positive; seven to twenty moderate increase; and twenty to one hundred and fifty decidedly pathologic. The fluid was centrifuged in a pointed tube for about one hour, and the supernatant fluid removed. The sediment from the lower end of the tube was then obtained by a pipette and distributed in drops on slides. It was dried and fixed for ten minutes in absolute alcohol, when the specimen was stained and washed thoroughly in distilled water. As some of our specimens become unavoidably mixed with blood, the count could only be satisfactorily made in sixty-seven of the ninety-five cases, of which number only three cases, or 4.4 per cent, showed a count over six cells per immersion field. The estimation of the pressure of the fluid was only approximate, as it was merely made by the number of drops per minute, a water or mercury manometer not being at hand. An increase was noted in seven cases, or 7.3 per cent.

The following are the results of the Wassermann test applied to the sera and fluids:

TABLE 1.

WASSERMANN TEST APPLIED TO THE BLOOD.  
DEMENTIA PRAECOX.

Positive .....	81 cases
Negative .....	171 cases
Total .....	252 cases
Total per cent positive.....	32.1

TABLE 2.

WASSERMANN TEST APPLIED TO THE CEREBRO-  
SPINAL FLUID.  
DEMENTIA PRAECOX.

Positive .....	10 cases
Negative .....	85 cases
Total .....	95 cases
Total per cent positive.....	10.5

TABLE 3.

## WASSERMANN TEST APPLIED TO BOTH SERUM AND BLOOD.

DEMENTIA PRAECOX.	
Positive .....	3 cases
Negative .....	92 cases
Total .....	95 cases
Total per cent positive.....	3.1

Out of 252 sera examined, the Wassermann was found positive in 81 cases and negative in 171, representing 32.1 per cent positive.

Of the 95 cerebro-spinal fluids examined, the Wassermann was found positive in 10 cases and negative in 85 cases, thus representing 10.5 per cent positive.

In three cases, or 3.1 per cent, the reaction was found positive in both blood and cerebro-spinal fluid.

In two cases of this series, we were able to obtain a positive history of acquired infection after the psychosis had already been initiated.

One was a female, 19 years of age, who had come to this country at the age of 15 and was employed as a domestic. She was brought over by some tourists, and after she had been there a short time, there was noticed quite a change in the patient which was attributed to home-sickness, but which in reality was the beginning of her psychosis. She manifested numerous hallucinations, was apathetic and indifferent and at times catatonic. Would frequently break out in childish laughter and become impulsive. The infection took place about two years after the onset of the psychosis and the patient was admitted to the Central Indiana Hospital December 21, 1911. Traces of occult blood were noted in the feces.

The other case was of a young man 25 years of age, who developed the psychosis while serving in the United States army, and who, after its onset, became infected with syphilis.

One patient, who presented a pronounced positive reaction in both serum and fluid, was one whose father was syphilitic and who later developed tabes. He committed suicide when the patient was but five years of age. The mother died of heart trouble and was known to have had several miscarriages. Two brothers are reported living and in good health; one sister is of decided neurotic temperament, nervous, introspective and depressed.

Another patient of this series is one whose father is a paretic in our institution at the present time.

Only one patient of this series presented a positive Wassermann reaction in both serum and fluid, a positive ammonium-sulphate test, heightened pressure and an increased cell count. This patient, a painter, was admitted to the Central Hospital September 12, 1912, with a picture of a well advanced catatonic type of dementia praecox. Little of his early life could be learned, excepting that he had always been very irregular in his habits, and that he at one time had had lead poisoning with wrist drop. He had also been addicted somewhat to alcohol. Incidentally we also noted that since in the institution the patient has had bile pigment and indican in his urine repeatedly.

I believe that the most hopeful lines of investigation are to be found when we consider dementia praecox as essentially similar to paresis, where nerve tissue is destroyed by the presence of poisons, be they exogenous or endogenous in character, and where in the slow deterioration of the nervous system, many mental pictures may crop out, and that it is in the pathologic laboratories where further light on the pathogenesis of dementia praecox will be thrown, rather than in the clinical observation of the often vague influence of psychogenic factors.

The manner in which syphilis acts as an etiologic factor in these conditions I am not prepared to say, whether we are dealing with the active spirochaetes, a syphilitic antibody, or with old healed syphilitic lesions in which the active process has long ceased and only the disturbance of function remains, an attenuated virus, or some antitoxin produced in the body in its effort to destroy the spirochaetes.

The finding of the positive Wassermann in dementia praecox in a certain per cent. of these cases, does not as yet establish as an absolute fact that syphilis is the etiologic factor in the production of this disease. It merely substantiates that the patient is a syphilitic and not necessarily that this syphilis, be it congenital or acquired, is the cause of the psychosis, for there is no law in medicine that a patient may not have two diseases irrespective of each other. However, the finding of the positive Wassermann reaction in a considerable number of these cases, especially in the cerebrospinal fluid, signifies at least that the central nervous system is involved.



Clinical evidence is not necessary to establish syphilis in these cases. Its presence may be made clear by the reaction as has been the case in the recent investigation of Profeta's law, that a non-syphilitic child of a syphilitic mother does not acquire syphilis from this mother who suckles it; and Colles' law, that a non-syphilitic mother does not contract syphilis when suckling her syphilitic child, whereas a wet nurse does. This shows that the child in the first case and the mother in the second case do not clinically give the slightest evidence of syphilis, yet in both cases give a positive Wassermann reaction and in fact are syphilitic.

May we not view dementia praecox in a similar way? Furthermore, the frequency of dementia praecox in patients of tabetic and parietic parentage, as was specially noted in the study of two thousand cases by Pilez<sup>23</sup>, is well known; also the history of frequent miscarriages in the mother, children born dead, and also children dying in infancy, and children apparently healthy, but who later present this characteristic deteriorating psychosis, and finally healthy children, suggesting either that in the course of time, the virus becomes attenuated, or that the resistance of the offspring increases in strength, or that both of these processes are in operation together.

If the work of antecedent syphilis were given a most careful investigation in dementia praecox, as for instance subjecting the parents of these patients to the Wassermann test (a work which we hope to carry out as far as possible), I believe an astonishing amount of evidence will be accumulated which will, in part at least, clear up the etiologic mysticism which heretofore has always shrouded this disease. We will then recognize its true nature and its cause, for not until then will we be able to pave the way to its rational therapeutics and the scientific problems of preventive psychiatry, in a type of psychosis which represents nearly 20 per cent of the admissions to our institutions.

#### CONCLUSIONS

1. A positive Wassermann reaction of the blood in 32.1 per cent. of cases.
2. A positive Wassermann reaction of the cerebrospinal fluid in 10.5 per cent. of cases.
3. Butyric acid reaction negative in all cases.

4. Increase of globulin content in 2.1 per cent. of cases by the ammonium-sulphate test.

5. A positive Wassermann reaction in both serum and fluid in 3.1 per cent. of cases.

6. Increased pressure of cerebrospinal fluid in 7.3 per cent. of cases.

7. Pleocytosis noted in 4.4 per cent. of cases.

8. Parallelism between the Wassermann reaction in both serum and fluid, globulin content by the ammonium sulphate test, lymphocytosis and increased pressure in one case.

9. Positive history of acquired syphilis in only two cases, and both these contracted the disease after the onset of the psychosis.

10. Ancestral syphilis in the production of the syphilitic soil is to be considered as one of the etiologic factors in the production of dementia praecox.

11. Clinical evidence of luetic infection is not necessarily present in dementia praecox, for we are probably dealing with syphilis in an attenuated form.

I desire to express my indebtedness to Dr. George F. Edenharter, superintendent of the Central Indiana Hospital for the Insane, for his unceasing encouragement of medical research; to the members of the medical staff of our institution for their hearty co-operation; also to Drs. Truman C. Terrell and Ernest D. Martin, pathologist and assistant pathologist, who conducted these serological tests.

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DISCUSSION OF PAPERS OF DRs. RICKSHER AND BAHR.

## ABSTRACT

Dr. Henry Cotton, Trenton, N. J.: Any special study of dementia praecox is certainly warranted and, as I said, welcome. Even if we get negative findings, we cannot say that the work has been in vain. We recently, in our laboratory at Trenton, N. J., went over two thousand cases of all classes in the hospital. The cases of dementia praecox showing a positive Wassermann were only 2 per cent., all cases included.

The question of etiology in dementia praecox is one that should receive more attention from the laboratory standpoint. We know the excellent work that has been done on the clinical symptoms of dementia praecox and the psychogenic factors which we all recognize, and are much indebted to men like Meyer, Hoch and others for their results in that direction. At the same time, in the last fifteen years or more, according to my opinion, there has been an unnecessary leaning towards differentiating dementia praecox by the clinical symptoms, and in doing that the mental symptoms have been given more prominence than the physical symptoms. We know that dementia praecox is really an organic disease. The deterioration spoken of by Dr. Ricksher is the fundamental symptom. Some cases appear very much more deteriorated, and frequently improve. I am not willing to accept just at present as a fact that syphilis plays such an important part in dementia praecox, but the work is in the right direction, and I was very glad to hear some of the conservative statements of Dr. Bahr, *i. e.*, that while the reaction was positive, it was not convincing that syphilis played an important rôle in the etiology.

While there were theories on both sides dealing with a toxin and metatoxin, or the effect of mercury in treating early acute syphilis—that the effects of mercury were responsible for the development of general paresis and the attenuated form, some authorities even going so far as to deny that syphilis had anything to do with it—you are all perhaps well aware, through the work of Noguchi and Moore—the spirochete has been found in the brains of cases dying of general paralysis, and that seems to settle the question once and for all as to what causes general paralysis. We knew for a long time that syphilis undoubtedly was an antecedent factor, but we did not know just the relation in which it stood to general paralysis, and I think, in view of that fact, we should be rather slow in discussing other forms of syphilis which might refer to dementia praecox.

Dr. H. Douglas Singer, Hospital, Ill.: With regard to the examination of cases of dementia praecox, and the Wassermann reaction, I would say that we have been examining quite a large number of these cases, and I did find some positive reactions, but my impression is that the figures are a good deal smaller than in Dr. Bahr's series.

The relation of syphilis to dementia praecox has been emphasized by Noguchi in about three hundred

cases examined. That was one of the things that led us to do our work. The first few cases we examined supported that view. Since then the majority of the cases gave absolutely negative results. We cannot examine very many spinal fluids in that way.

I cannot endorse the view with regard to syphilis being an important etiologic factor in dementia praecox.

Dr. A. E. Sterne, Indianapolis: For a number of years I, at least, have been impressed with the fact that there must be some fundamental cause for the predementia praecox make-up of an individual, which, to a certain degree, seems to separate that particular type from the normal type. It has been difficult for me always to disassociate in my own mind the idea that any disease of the malignant type could be actually hereditary. Most of the conditions that we find, and in which we consider heredity an important factor, may be congenital rather than hereditary, and acquired during the intrauterine life of the fetus itself. It is possible on that account that an affection of the chronic type, such as syphilis presents, might be acquired after a fetus had evolved itself to such a degree of vitality that even in the presence of this malady it might remain viable. Now, the whole character of the clinical manifestations in cases of dementia praecox, seem to point to a chronic intoxication in these cases, and the most prominent chronic intoxication with which we have to deal is certainly syphilis. I am not prepared to say, any more than you are prepared to accept the dictum, that syphilis bears an intimate relationship to the development of dementia praecox. I believe it frequently does. I believe that a wholesale careful examination will reveal the fact that syphilis has a distinct bearing upon these cases, and I do not see why, both from a mental viewpoint and notably from the viewpoint of pathology, we should not strongly suspect the treponema as the basic factor in the toxemia of this condition.

Dr. Ross Moore, Los Angeles, Cal.: The interesting thing in Dr. Bahr's paper to me was his description of the schema in the examination of the children before attacks or between the attacks of dementia praecox. In fact, it seems to me that that is the heart of his paper: the question of whether or not by examination of the psychology of the child before an attack or between attacks you can determine the character or temperament. I want to ask him in his closing if he will explain the most difficult thing for me to understand, namely, if dementia praecox is of syphilitic origin, we will have to admit that it probably is not primary or tertiary or secondary, but meta and the work which has been done on the meta-syphilides would indicate that the spinal fluid Wassermann is positive in more cases than the blood.

It might be appropriate here to speak about a new method of examination of the spinal fluid which Lange has been working out, and which my friend, Dr. Stoner, of Cleveland, demonstrated to me a few weeks ago, and which was spoken of in a paper at



the Neurological Section of the American Medical Association, the so-called gold salt method. Dr. Stoner worked for four or five months in the Lange laboratory and did an immense amount of work, and he comes back with the statement that it is more nearly positive of the meta-syphilide group of conditions than the blood or the spinal Wassermann. He is almost enthusiastic enough to say that he has one hundred per cent. positive in the meta-syphilides. He does not go quite that far, however. I might say also that it is a method which is useful and can be applied by all of us. It does not require the technic of the Wassermann specialist, but we can apply it ourselves, and I would suggest to many of you, who are working in institutions, that you look up this Lange gold salt test and begin to apply it in not only the meta-syphilides which we know are meta-syphilides, but in these cases of dementia praecox.

Dr. J. Cheston King, Atlanta, Ga.: In discussing papers like these where there is so much uncertainty attending each paper, so much uncertainty as regards the causes and as regards the cure, and what lies in the future, we are driven from our beaten haunts. It is a very interesting thing, on an occasion like this, when every man has an individual opinion to express which may in the future redound great credit to the medical profession.

In discussing dementia praecox the statement was made that it is a form of dementia, as paresis. I disagree with that statement. Paresis is a definite form of dementia, and not only that, it is ever present and it is ever presenting.

Heredity influences yield a fertile field of disturbances in many of our mental disorders. That has been proven to a great extent by Dr. Moyer, here on the floor, in the research work that has been carried on by Dr. Mendel. I do not believe that we can accept the Wassermann theory as a productive cause of dementia praecox, yet I do believe that there is a fertile field for still further investigation.

The statement was also made that in all cases of dementia praecox the onset is rapid. This I do not think can be confirmed, for the simple reason that very often a case comes in a neurasthenic condition which becomes worse slowly, until we arrive at the positive diagnosis of dementia praecox. In some cases the onset is rapid, but it is not so in the large percentage of cases. It seems to start with an unstable nervous system, and I believe that the future holds out great things for us in the positive diagnosis and treatment of this disease, from a scientific standpoint, from laboratory research.

Dr. H. C. R. Norris, Enderlin, N. D.: It strikes me that in dementia praecox we are going to revise the diagnosis. A certain percentage will react to the Wassermann, a certain percentage we can lay to the ductless glands, or any toxin. It is simply a matter of diagnosis. Instead of being produced by one condition, as heretofore supposed, different toxins will produce the same condition.

Dr. W. F. Lorenz, Mendota, Wis.: From my personal experience with the spinal fluid, I can corroborate certain of Dr. Bahr's findings, particularly in the absence of the butyric acid test and lymphocytosis. Personally, at our institution, we use the cell chamber, the Fuchs-Rosenthal apparatus for cell estimation, and I believe that is conceded to be the more accurate of the two, and in no instance have we had the cell count over six to seven per cubic centimeter. In our experience that is not thought to be very abnormal. Of course, the majority are in the neighborhood of one to two cells per cubic centimeter, many have no cells at all found in the chamber, and our Noguchi butyric acid tests have been in every instance negative in the spinal fluid. Of the large numbers of dementia praecox cases that have been subjected to the Wassermann examination there have been very few positive examinations of the spinal fluid. There are occasional reactions that are positive, and there are quite a number that are faintly positive, and in that regard I would like to ask Dr. Bahr what he regards as a faintly positive reaction, and if it was positive at all, why exclude it? If you include those faintly positive reactions, then your percentage would be much larger than thirty-three, and it seems to me that if there is any indication of syphilis at all, it would indicate a positive reaction, and it might be included.

Dr. Ricksher (closing the discussion): I have only a very few words to say. Dr. Moore emphasized rather the personality of dementia praecox that has not been found. It is a very common finding—in about thirty or forty per cent of the cases. The analysis of the individual's personality was intended rather to determine the type of individual, the patient's individuality itself, so that it could be determined what change there had been in his previous state and his condition when he was supposed to be demented.

One of the speakers referred to paresis as the leading type of dementia. Quite recently several articles have been written by Englishmen and some Frenchmen, saying that general paralysis should not be called a dementia paralytica because the dementia is entirely secondary, just as an apoplexy should not always be called an apoplectic dementia. Whether the term is used correctly or not is simply a matter of personal liking or disliking in the use of it. Maraschino, many years ago, said that every man who suffered an apoplectic attack was demented. I think all of you have seen many cases of apoplexy in which it would be rather difficult to determine a marked dementia. There may be some slight dementia, but I would not consider paresis as a typical form of dementia. It is a secondary form of dementia, secondary to the brain lesion. Dementia praecox, on the other hand, has passed through many terms, first being called adolescent insanity, then primary dementia. The dementia was the thing that was emphasized at that time. The dementia in hysteria is

probably an organized condition, but our studies do not always give us the definite pathology in every case, although we find the changes, and consequently the dementia as such must be left as an undetermined factor.

What I wanted to state in this paper was that dementia praecox, while it is called a dementia—everyone is agreed that there is some permanent deterioration—should not be spoken of in terms of dementia, such as greatly demented or slightly demented, because at no time in the individual's course can you say that this individual has reached a permanent end state. In no case of dementia praecox, with our present knowledge and methods, can you say that this condition will either progress or stop.

Dr. M. A. Bahr (closing the discussion): These experiments were conscientiously conducted after the outline of this work was given careful consideration by us for some time. Our serologist who reports these findings is a man of wide experience and has recently made several thousand tests. I do not wish to go on record as saying that syphilis is the cause of dementia praecox—that is an erroneous impression. I merely wish to emphasize that we have to take it into consideration as one of the possible etiologic factors in this disease from the fact that we find a positive Wassermann reaction in so large a percentage of these cases. Furthermore, I do not want to leave the impression that we are dealing with syphilis in its active form, as I believe Dr. Singer got the impression, and that syphilis in its active form was the etiologic factor in this condition. The syphilis was probably handed down from previous ages, which is probably the etiologic factor—an ancestral process, so to speak—not acquired syphilis.

The two cases in this series that I mentioned in which there was a history of recent syphilis were cases in which the syphilis was acquired after the onset of the psychosis, and consequently had nothing to do with the production of the psychosis at all.

Of course, there are other etiologic factors. There is no getting around the studies of Bleuler, who observed that in eighty-four per cent. he found decided alcoholic history. We have all had experiences like these. Alcoholism probably has something to do with bringing about the positive Wassermann reaction, as investigations of this character are being made along many psychoses of the alcoholic type, in which positive reactions are being found. It may be that the alcoholism has some play in that respect. From the fact that the consensus of opinion is that the Wassermann reaction is a positive sign of syphilis, we must give some consideration to that belief.

As to Dr. Moore's statement regarding the large percentage of positives in blood, and less in spinal fluid, it means that the nervous system probably is not involved to the extent that it is in paresis. I do not mean to associate it with paresis in the sense that we have a disease analogous to paresis. It goes to show that in a very small per cent. the nervous sys-

tem is involved, but the rather high percentage in the blood is sufficient evidence that syphilis is at play.

Dr. King misunderstood my remark. I did not intend to say that all cases of dementia praecox have a rapid onset. I said that it was often of rapid onset. I used that term in the sense of an acute condition. Sometimes these cases do come on very rapidly. We all know that many times the condition has existed for weeks and months before the family realized that a psychosis was in operation, and it is only when some acute outbreak takes place that the condition is noted. A change of disposition, etc., and an apathetic condition may exist for months and not be recognized as a psychosis.

As to paresis, I meant to infer that dementia praecox is as much a distinct clinical entity as is paresis.

Of course, the term dementia is only relative—what is meant by dementia is something that the patient has lost—he may have lost his ethical feeling, but still his memory may be good. He may give his multiplication tables, but the fact that he has simply lost his emotional sense in itself indicates a dementia.

Dr. Lorenz spoke of the negative butyric acid. I stated that in the paper.

Another thing we can not get away from in the history of syphilis is paresis and tabes frequently found in the ancestry of these patients. This was found in twelve of these cases, that is, a history of syphilis in the parents of these patients. We expect to carry on these experiments more extensively and see if we can get at some definite results. You all know how hard it is to get accurate histories. So far as possible we are going to try and work this out.

As to the readings, "faintly positive," of course, that is left to the serologist. We have different degrees, some faint and some very pronounced, but what we call "faintly positive," was anything less than plus four, which we regarded as negative, in order that these statistics might be as accurate as possible.

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## MODERN CONCEPTIONS OF THE PARANOID STATE.\*

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For years the alienist has attempted to elucidate the problem of so-called "paranoid" psychoses. The appearance of mental aberration in the presence of clear consciousness and while the subject is apparently in full possession of his intellectual faculties, piques curiosity and stimulates a desire for knowledge. Many authors have defined the disorder in many different ways, and even the laity use the term with some degree of

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\*Read at a meeting of alienists and neurologists held under the auspices of the Chicago Medical Society, June 23-25, 1913.



understanding. Kraepelin recognizes but one form which he defines as "a fixed delusional system slowly developing in the presence of a well preserved orderliness of thought, will and conduct." A great majority of writers, however, prefer rather to classify upon the presence of delusions not fantastic, at least somewhat logically explained in the presence of clear consciousness, and without toxic etiology.

With a full understanding that several forms of insanity not yet sufficiently differentiated are involved, we have adopted in our Illinois hospitals the broad classification of *paranoic state*, thus granting that we have as yet no single disease picture of paranoia such as we find in paresis, for example; but rather, a collection of pictures of somewhat similar composition and coloring, though more or less obviously the work of different artists who have attained their results in widely differing ways.

We often hear the familiar concession, "Yes, the man seems to be all right, save in that one particular direction." Obviously with the thoughtful there arises out of this, the question, "Is such a condition really possible, a condition where but one portion of the ego is affected?" In reply to which, a very pretty comparison has been drawn between the seemingly isolated abnormality and an island jutting out of the sea, apparently cut off on all sides from the mainland, but in reality finding a rocky base in common with the cliffs of the shores about. As a matter of fact, there is nothing isolated in our mental lives. From cradle to the grave there extends an unbroken ribbon of interwoven associations gaily patterned with their corresponding emotions. Mental activity is conditioned by interest—using the term interest here as a general one to cover all gradations of emotion from those of a purely animal-like character up to and including the most abstract philosophers' desire for truth. With this in mind it is not so difficult to perceive how disorders of thought may take upon themselves a multitude of aspects, according to the manner in which emotion or interest is disturbed. However, not all psychic disorders of a functional character result in paranoic conditions, and many theories have been advocated to account for the peculiar formation of these aberrations. Gustav Specht<sup>1</sup> assumes

<sup>1</sup>Zentralblatt für Nervenheilkunde und. Psychiatrie, Nov., 1908.

that they are an offshoot of manic-depressive insanity, due primarily to a more or less frank alteration of mood; and secondarily to an actual alternation, or mixture of mood. Thus, in the course of a chronic mania he contends that spells of depression occur, as a result of which ideas of mistrust and persecution arise which are afterward elaborated by reason of the excessive mental activity present. To support this view he holds up the paranoic's attitude of suspicion, manic-like spells of mental and physical activity, etc. Also he lays stress upon the fact that recovery occurs in paranoics, and that delusional formations often somewhat systematized, occur in undoubted manics.

Bleuler,<sup>2</sup> however, has quite clearly pointed out that suspicion is an act of judgment rather than an emotional state; and the contention that paranoics all show manic tendencies is not well supported. The fact, however, remains that at times the diagnosis is difficult or impossible to make without extended observation. Note the case of R. K. E.

The patient when admitted was a man of thirty; having lived a rather solitary life on the western plains and somewhat given to variations of mood and to planning greater things than he could accomplish. The attack began with a rapidly developing conviction of unusual personal ability—an onset, it must be confessed, which at once should lead one to suspect a change of mood as the basis of the defection. When admitted he was quiet, and showed practically no press of speech and very little activity. Cheerfully he explained, when questioned, that he had solved the problem of the distribution of wealth with the dictum, "No man shall invest more capital in any one field than enough to earn the average cost of living." Fourteen of his friends in Chicago were preaching his doctrine to the laboring classes. A newspaper strike in Chicago was brought about by the money powers because they had been informed of an article which he had forwarded to one of the great newspapers. Aside from this quite fixed idea he had various others still undeveloped. His interest was good, and as time went on he showed a marked systematization of his delusions. He made several attempts to escape, but gradually became more reconciled to the situation, and in about six months cleared up with good insight, being paroled home as improved. Since then it has been reported that he is doing well, although still subject to the old time variations of mood.

Here we have a fairly clean-cut delusional systematization arising quite rapidly in an ambitious

<sup>2</sup>Bleuler: (Affectivity, Suggestibility and Paranoia.)

individual who has suffered an elevation of mood. The paranoic state (the patient was first thus diagnosed) was here, but the expression of the man's sense of increased ability, systematized because the orderly habit of his mind was not sufficiently disturbed or interfered with by the change of mood. The psychosis was quite frankly an affective one.

Bianchi contends that the essential features of the paranoic state are, "An exaggeration of the fundamental emotiveness and an insufficiency of the power of apperception of the relation of the individual to his environment—true paranoia (in counter-distinction to similar states arising in toxic, infective psychoses, etc.) is a constitutional malady that has its foundation in an anomalous psychopathic structure, generally developmental—the paranoic is a weak individual delivered by his mode of thinking and feeling into a world of chimera." Thus Bianchi follows quite closely Magnan, who views the psychosis as an expression of degeneracy. Thus, also, he agrees fairly well with Kraepelin, who looks upon what he terms, "The primary stability of the delusions," as "due to the emotional coloring and to a certain weakness of judgment."

That there is a type of personality essentially paranoic in tendency cannot be denied. Quite often we find evidence of an inclination toward ideas of reference in individuals accounted normal, as well as in the early life history of full-fledged paranoics—ideas arising out of the effort to excuse and explain what they do not understand in themselves on the ground of interference from without. Tanzi, from much the same viewpoint, described the paranoical delusion as, "The fantastic product of an ego-centric, but lucid spirit, which abandons itself without restraint to the mysticism of primitive man. Instead of lamenting his own inadaptability, the paranoic, led away by pride, blames the malevolence of other men."

But, granting all this—although many paranoics would seem to have been quite normal before the onset of their psychosis—what is the exciting cause which brings about the acute disturbance we recognize as insanity? Bianchi, himself, goes on to say that in all the better known and better studied forms of paranoia "the emotions are the fundamental and primary fact. When emotive states exceed the normal in in-

tensity and persistence, they exercise an absolute dominion over the consciousness, until through their once having assumed government over the senses and intellect, there arises an alteration of the perceptive and apperceptive processes which insure normal relations between the individual and his environment." Which, in plain words, means that when a man becomes sufficiently wrought up, or "emotional," as we say, he loses control of his orderly judgment, and the emotive, or emotional state, if it is strong enough, may condition a defect of judgment more or less lasting. Thus the dictum pronounced by Bianchi and Kraepelin, concerning a primary weakness of judgment, evidently really concerns a fundamental tendency toward a powerful emotional reaction, this reaction evidencing itself as an eclipse of judgment.

By way of further illustration, I beg leave to quote from Freud's<sup>3</sup> remarks concerning a case of paranoia. The translation is not a literal one and is considerably condensed. The viewpoint taken in this article is essentially Freudian, but illustrates very well the stress which this author lays upon complex disturbances as related to so-called paranoic manifestations.

According to this author the paranoic has never entirely freed himself from Narcissismus, "Since we find," he states, "from our analysis, that the paranoic seeks to defend himself from a sexualization of his social instinct, we are forced to the conclusion that the weak place in his development is to be sought in the zone between the auto-erotic, Narcissismus and homo-sexuality. Here lies his tendency to the psychosis. A similar tendency we must ascribe to dementia praecox or schizophrenia, and we hope by further arguments to succeed in establishing by way of differences in fixation of the libido, corresponding distinctions in form and outcome of the two affections."

When, however, we hold that the demand of a homo-sexual wish phantasy—to love the man—is the heart of the conflict in paranoia, we must not forget that the establishment of so mighty a postulate means the collection of a great number of cases of all forms of paranoic disease. We must, therefore, be prepared eventually to limit our assertion to a single type of paranoia. After all, however, it is worthy of note that all the principal recognized forms of paranoia can be presented as contradictions of the pronouncement, "*I, a man, love him, a man*"—indeed

<sup>3</sup>Freud: (Remarks concerning a case of Paranoia, Jahrbuch fur Psychoanalytische, etc., Vol. III, first half.)



that they exhaust all possible formulations of this contradiction.

Continuing, Freud points out the fact that for the understanding of the symptom formation in paranoia one must first become familiar with the principle of what he terms *projection*, which he thus explains: "The inner perception of consciousness is repressed and, as an equivalent, its content—after having experienced a certain displacement—appears as a perception from without. This displacement consists in delusions of persecution and an apparent change of affect. What would have been inwardly felt as love is perceived from without as hate. This, however, is not a pathognomonic phenomenon for paranoia. It is found in other psychoses and indeed normally under certain conditions.

Thus the declaration of the paranoic "I love him, (the man) not" implies the repression of the statement "I love him"—which confession is still farther avoided by the additional avowal "I hate him," which again alters itself by projection into the statement "he hates, persecutes, me, which justifies me in hating him." Thus the inner urgent but unknown affect finally assembles itself in the complete pronouncement "I love him not—indeed I hate him—because he persecutes me." Psychoanalytical observation leaves no doubt but that the persecutor is none other than the loved one.

Erotic paranoia assumes another point of attack for the contradiction which without this general understanding would remain incomprehensible. Here we have the dictum "I love not *him*—I love *her*" and the same compulsion toward projection necessitates further alteration of the declaration to read "I love not him—I love her—*because she loves me.*"

The third possible production would be the jealousy delusions. Thus in alcoholics drink lessens the repressions and weakens sublimation. In the company of men for whom he possesses unconsciously a libidinous fancy, the alcoholic defends himself by proclaiming, "It is not *I* that love that man—*she* loves him," etc.

One would now suppose that a sentence consisting of but three parts would allow of but three contradictions, ideas of jealousy contradicting the subject, those of persecution the verb, and those of erotic mania the object. In reality, however, there is a fourth contradiction possible, namely, one of the entire sentence, thus—"I love not at all—and no one," psychologically equivalent to the statement "I love only myself." This species of contradiction gives us megalomania, which we understand as a *sexual over-valuation* of the personal ego. Indeed we have the right to assume that megalomania is infantile, that it is sacrificed in the later development of society just as it is by no other agent so powerfully repressed as by a mighty love passion.

"What we take for the disease," Freud concludes, "the delusional system, is then in reality an attempt at healing, a reconstruction." Which

is to say, that by the method of projection already described, the patient regains a relationship to the outer world—of a sort, at least, if not the best possible.

While it may be difficult for some to accept the determining trend of interest in paranoia as a homosexual one, it is not so difficult to perceive the logic of Freud's argument for a predisposing cause in the shape of some powerful trend more or less successfully barred out of the patient's conscious life until freed by accident or change of circumstance which suddenly or gradually breaks down the patient's resistance. Such is Bleuler's view, as well as that of Jung, who has developed it in his well known analysis of a case of dementia praecox. Whether these authors now go so far as to accept Freud's theory in full and as briefly stated above, I do not know.

The following case, though no attempt at psycho-analysis has been made, illustrates rather well the conception of paranoic development out of a disturbance of affect.

Case of M. Ma.: The patient is now about 51 years old; single, formerly a school teacher and has been in the hospital eleven years. There is said to be no insanity and no alcoholism in family so far as known. She is reported to have been a normal child; became a teacher at about 20 years of age, and is also said to have studied law.

In 1888 she suffered a rather severe accident and following this became "nervous" and acted "queerly." For some years previous to admission she was inclined to be idle; irritable at times and egotistical. Her home life was not satisfactory. She wished more freedom, could not agree with other members of the family concerning the matter and began to use considerable whisky.

The present mental state is said to have been of slow development, manifesting itself more and more in an interest in marriage, until finally she came to believe that she had been married to a prominent business man of her city with whom she had a slight acquaintance. Gradually she became indolent, even to slothfulness; easily became excited, very talkative and even noisy and quarrelsome. Finally, just previous to admission, she developed delusions of persecution rising out of her inability to secure the wealth and position she believed were due her.

She is very egotistical, quite logical in the development of her delusional system; has lost apparently little if any of her mentality, and upon the whole presents an attitude of cheerfulness which is seemingly out of place with her present condition, though quite in keeping with the confidence in herself and her ultimate triumph which she has at all times manifested.

The physical findings are negative. She gives a very careful and reasonable explanation of the facts leading up to her internment. Somewhat grandiloquently she speaks of herself as a philanthropist and of having studied something of law, quite a bit of medicine, the Bible and the Constitution.

In 1902 she believes she was married to a prominent business man of Chicago "by proxy," a certain priest performing the ceremony and acting as proxy because she "was such a shy girl." She could have had a grand wedding if she had wanted it. Following this marriage she still lived with her mother, seeing her husband at times, but not living with him. She did not know what the marriage vows meant; thinking that they merely implied cooking a man's coffee for him, etc., but later found that her husband merely wanted her to put on fine clothes; to loll upon a sofa; to complain and to bear children. (Note here how cleverly she delineates what must have been her ideal of married life.)

In connection with this recital she describes in considerable detail the manner in which she aided her husband by arranging for him the sale of some large stock holdings. She was brought to the institution illegally by a man who acted for a promoter who was unfriendly to her, and on a very definite date her first baby was born, following which she soon became pregnant again, and was then visited by a judge and a physician from Chicago on behalf of her husband. They asked her at this time if she had any children, to which she thoughtlessly replied in the negative, thinking they meant to inquire if she then had any children with her. (Note here how cleverly she succeeds in explaining what would seem an inconsistent statement. It is very probable that at this time she was in fact visited by someone, possibly a doctor, who actually asked her the question the unfortunate answer to which she thus explains away.) One of the doctors addressed her as Mrs. H— and issued orders that she be thus addressed. Valuable records concerning her marriage, etc., were burned in a fire which actually occurred in the room of one of the supervising nurses. During the eleven years of her hospital internment she believes she has given birth to at least sixteen children (one every nine months), she even gives the dates of her various confinements, remarking that one of the children was a girl. She names the nurses and doctors who have cared for her on various occasions. Her lack of pain she explains as being due to the use of an anesthetic. Her confinements take place at night, and she is aware of the fact in the morning only on account of certain "straining sensations" and the statements of her nurse. She describes vivaciously her various sensations during pregnancy, telling of how she becomes larger, bloats, can not see well, etc. Her husband she never sees; never knows when he comes upon the ward, and is only informed of his visits by the nurses afterward. There seem to be no fantasies of sexual interference.

In October, 1907, her husband came to take her home, but inasmuch as she was then pregnant she felt that it would not be wise for her to take the trip. The institution was suffering at this time from a lack of coal, which made her feel that if she were to stay here she could insure the comfort of her fellow patients because her husband would make sure that they were kept warm while she remained. Upon another occasion she was brought before a great clinic of doctors as "the wife of Mr. H— and the mother of many babies." This clinic actually took place, but was merely before some medical students.

Throughout her recital there is no hint of hallucinatory experience. She is possibly deteriorated, but so very slightly that it would seem nothing more than the natural narrowing down of mentality, consequent upon restricted living and thinking.

Analyzing, after a fashion, this case we find that we have here a maiden-lady primarily gifted with more self-confidence than ability, and doubtless given more or less to day-dreaming throughout her early life. Upon this basis we perceive the gradual development of a paranoic trend, with ideas of reference arising upon the basis of sexual complexes. Alcoholism may have assisted in the process, but very possibly was but another expression of her dissatisfaction with hum-drum existence.

The repressed sexual trend gradually gives rise to more and more restless discontent. When it finally gains more evident control we find her proposing marriage, and investing herself with all the paraphernalia of married life—that is, she begins to react in a systematic manner to the sexual urge so long held in more or less abeyance. Her emotions overcome her sense of comparative values and reason elopes with fancy. Thus she comes, after a fashion, to react just as might a woman of half her years who carries out an actual elopement urged on by her own impulses and the enticement of a lover. Her thought and acts are the result of sexual stimuli, and the excessiveness of this reaction prevents or distorts the normal counterbalancing effect of her other associative activities, thus putting to route her common-sense.

Her delusions as to child-birth are so excessive as to suggest a very grave deterioration, but we must remember that in these years of phantasmagorical fecundity, she is making up for the years of sterility in which she might have actually borne many children.

The case, as a whole, is a good example of an



old-fashioned, if we may so describe it, case of paranoia, in which the positive factor is quite plainly manifest. We cannot well go back into the childhood of a patient like this in search of infantile antecedents—the patient is too old. The entire affair is too firmly interwoven to be disentangled now. One fact brought out in high relief is that the entire condition has in a manner quite in accord with modern views been produced by a certain trend of interest in an individual primarily unfit for facing the facts of life as they are.

So much for origin, but what shall be said concerning the termination of this class of psychoses and how shall we from observation of the course come to a better understanding of the cause? Thirty-four out of some ninety-four cases (about equally divided between men and women) received at Kankakee in the last five years, but still diagnosed as paranoic state, show dementia praecox characteristics to a greater or less degree. This is the result of a study of histories more or less imperfect, and of the observation of patients still remaining in the institution. But five or six satisfactorily fulfill the Kraepelinian formula of delusional system slowly developing in the presence of well preserved orderliness of mental activity.

Little more than a half of the entire number exhibit interest in the best sense of the word—such a quality of interest, say, as is found in individuals ordinarily deemed sane, but possessed of a hobby of one kind or another upon which their best energies are expended. Hallucinoses are found in twenty-eight. Twelve are very possibly alcoholic. Four recoveries (?) are said to have taken place.

These results are manifestly but approximate, but the writer is led quite irresistibly by case-study to the conclusion that the so-called paranoia of the majority of writers is but the outward manifestation of an emotional disturbance dependent upon individual make-up for its external guise and the character of its course. The emotional upset we may attribute to the breaking down of repressions dating back to childhood or to the difficulties of later years. The manner in which the adjustment—which we call the psychosis—is made, must depend upon the mental habit of patient, that is to say, upon the character of the various complexes determining the

individual's reactions and also upon the degree of sublimation attained, as roughly represented by logical thought processes and well directed endeavor.

#### ABSTRACT OF DISCUSSION.

Dr. Theodore Diller, Pittsburgh, Pa.: The evolution of our ideas and our attitudes towards various mental diseases, I think, is interesting to anyone who can go back twenty or twenty-five years. The nomenclature in those good old days was very simple, when the report of such an excellent institution as the Pennsylvania Hospital for the Insane came out, and all the hospitals in Pennsylvania had the same classification—it included mania, melancholia, general paralysis of the insane and dementia—only four kinds of insanity and the recognition of all these was very simple. Anyone who was loud, noisy or excited was a case of mania. If, in short, you had a case of acute mania, if of long duration, it was a case of chronic mania. And so with melancholia. There was one other thing—monomania, which they were a long time calling paranoia. More and more we have found in analyzing paranoia an underlying condition of mental enfeeblement, and these cases are being called, I think, by psychiatrists generally more and more cases of dementia praecox of the paranoiac type. It seems to me I used to see more cases that could stand the test which makes the criteria for paranoia than now. I recall several patients who seemed to be highly classical cases.

Dr. Meyer Solomon, Chicago: With reference to Freud's idea of paranoia, Freud has, of course, a wonderful psychologic insight, and it is necessary for us to take into serious consideration whatever theory Freud may put forth.

With reference to the question of paranoia, however, I firmly believe that Dr. Freud is really on the wrong trail. He goes into the mechanism of paranoia as being centered about the sentence, I love him. On taking up the subject, the verb and the object of the sentence, I love him, he gives us a psychologic explanation of all the conditions we find in paranoia, and as being centered about the sexual instinct. If it is true that paranoia, and therefore paranoiac states, be centered about sexuality, then we must therefore conclude that every idea of suspicion that any one of us may have at any time is also dependent upon sexuality. In the same way, also, if Dr. Freud's idea that the delusions of exaggerated ego in the paranoiac can be explained as being based upon a theory of sexuality, we must conclude that every idea of well-being, every feeling of gratification and satisfaction that any one of us may have is also dependent upon sexuality.

On the other hand, we know that in normal life a great proportion of the ideas of suspicion and of persecution which any one of us may have are based very often upon the law of self-preservation. We

also know that any of these ideas of suspicion, self-esteem, and so forth, may be centered about any one of the instincts that we have. There is only one standpoint from which Freud's idea may be considered true, and that is this: Every spark of energy in the universe, every atom, is or may be of some significance to any one of us, from the biologic standpoint. Since we are of either the male or the female sex therefore, everything may be considered to have a sexual significance. However, this is not the proper standpoint to take. Why should we take the human being as the center of the universe? We may take some inanimate object, which has no sex, as being the center of the universe. I, therefore, think that this conception of paranoia and paranoid states as being centered about the sentence, I love him, and as being based upon the homosexual tendency in man, is absolutely unfounded. On the other hand, paranoia may develop from a disturbance of any one of our instincts. Of course, in the long run, all of our instincts and tendencies may be traced back to the fundamental instincts of self-preservation and sex gratification, but to say that paranoia is always dependent upon the sexual instinct alone is to not give due mention to the other instincts of man.

Dr. A. B. Yudelsohn, Chicago: I would not defend the Freudian theory on any of the ideas that he advances particularly, but the last speaker said that one might as well take the standpoint of self-preservation as that of sexuality. It occurs to me that it is not a matter of choice on the part of the diagnostitian as to which stand to take in any given case of paranoia, but to trace the nature of the psychic trauma which caused the particular mental unbalance.

One or more of three fundamental forms of energy may suffer from a change occurring in them. Physiologists tell us that animal energy is divided into three groups. First, egoistic energy, that is, self preservation; second, philetic, or procreative energy, and third motor-sensory. Thus, in the normal individual, any form of energy discharged comes within the realm of these three mentioned, and they are about equally possessed by all mentally balanced persons.

The paranoid, when his sensory mental sphere is traumatized, fails to interpret the environment correctly. He will thus have hallucinations or delusions. If his "self" is threatened he will have ideas of persecution, while if the philetic sense or sexual sphere be affected one will be able to trace a sexual trauma.

Dr. Solomon's argument—why should we insist upon the sexual element in the paranoid being stronger than that of self-preservation, and he would have it that self-preservation predominates—necessarily falls, since one may outweigh the other in certain conditions. In one case the paranoid insists on being persecuted or being threatened with persecution, which in turn threatens self-preservation; another case may not have these ideas at all but centres his mind on the sexual side of his nature—sex-

uality; while still another may have hallucinations. Now this is not an effort to defend Freud, but merely to interpret energy as classified by the physiologist, and for this reason placing in the balance the individual case without any set rules for either.

Professor Seashore, State University, Iowa City, Ia.: The sexual state which Dr. Freud suggests is probably one of a considerable number of factors which we are likely to discover by a sympathetic study of that one particular factor.

Dr. A. G. Wittman, Elgin, Ill.: The difficulty with Freud's view seems to be in the numerous interpretations of different men attached to his ideas. It has been noticed in our institution at Elgin, as remarked by Dr. Diller, that the more we study these cases of paranoia, the fewer cases of true paranoia do we find.

Dr. Henry A. Cotton, Trenton, N. J.: This subject of paranoia and paranoid states is one of extreme interest. A recent work of Dr. Meyers' on the modern treatment of nervous and mental diseases, with which you are all familiar, has a more hopeful tone in speaking of these conditions—that something can be done for them is probable, and because we label them paranoid or paranoid condition does not necessarily mean that they will not recover. The diagnosis of paranoia is one that is really seldom made. I think in thirteen or more years I have made two diagnoses of paranoia, and both cases turned out to be something else. One was undoubtedly of the manic-depressive type. Kraepelin, narrowing paranoia down to a very small group, is, I think, correct.

Dr. Charles Read, Kankakee, Ill. (closing): I have been very much interested in the discussion that has been brought out concerning the Freudian theory, which I brought into this paper merely as an example of the manner in which Freud, the great expounder of this new school of psychoanalysis, develops the proposition of paranoia or paranoid states, as arising upon or out of a certain trend of interest which for years has been more or less submerged in the individual's mental and emotional life.

So far as paranoia goes, it would seem, as has been said, that it is disappearing. There probably is as much of it as there ever was, but we are taking another viewpoint. The viewpoint that I wish to bring out in this paper is that which looks upon paranoia as developing in a dynamic way, that is, as originating in these so-called complex disturbances. Whether they date from childhood and are sexual, or whether they date from later years and have to do more with the ordinary non-sexual interest of the life, I cannot say. I want to emphasize the fact that we have here a working concept, and that the disease as we see it is merely the adjustment of the individual to these complexes as he understands them. This view, I believe, will reconcile the classifications of paranoid praecox and paranoid states of all kinds. Probably they are all of much the same character, varying with the individual's make-up.



# ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society, under the direction of the Publication Committee of the Council.

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Copy for publication to Dr. Henry G. Ohls, Managing Editor, 927 Lawrence Avenue, Chicago.

APRIL, 1914.

## Editorials

### ANNUAL MEETING

Are you going to attend the Annual Meeting of the State Society at Decatur, May 19 to 21, inclusive?

If you have not already determined that you are going, it is time you were doing so. Every member of the Society should attend this meeting, and we think no member will regret the time spent at Decatur.

The Committee on Arrangements are Doctors E. J. Brown, chairman; A. F. Wilhelmy, M. P. Parrish, W. H. Bell, J. D. Sanders and R. L. Morris.

The officers of the Macon County Society are Doctors E. J. Brown, president; H. C. Jones, vice-president; R. Z. Sanders, secretary.

Both the Macon County Society and the Committee on Arrangements are putting forth every effort looking to the comfort and entertainment of the State Society.

The general sessions are to be held in the new Christian Church. The general meetings in the auditorium and the exhibits on the lower floor of the same church. The House of Delegates will meet in the gymnasium of the Y. M. C. A., and arrangements have also been made at the Y. M.

C. A. for the Council Meeting, the Section Meeting for the diseases of the Eye, Ear, Nose and Throat, and the Section Meeting on Public Health and Hygiene.

Decatur is a prosperous commercial and manufacturing city located in the center of the great corn belt of Illinois. This city has shown very unusual strides along all lines during the past two or three years, and there are many valid reasons why it should have done so. It is well located geographically, having fourteen railroad

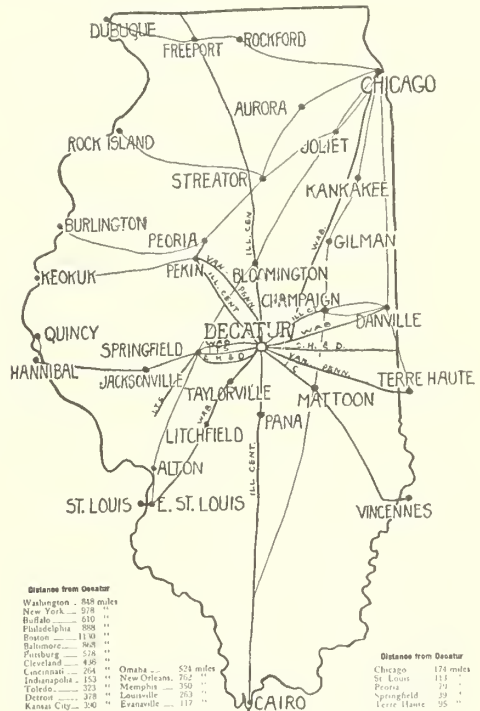


Fig. 1.—Map of Illinois.

lines in and out. Good water at low rates; abundant supply of home produced fuel; low taxation; unsurpassed educational advantages. A clean, healthy city in every sense of the term, with open doors to enterprising people.

### ACCESSIBILITY.

About half of the counties of the state, forty-five, to be exact, may reach Decatur without change of cars. Just an even one hundred counties may reach Decatur without change or but a single change. The other two counties are without railroads. It is believed that no other city in the state, except possibly Chicago, can make this claim. This statement is based on a map copied from the official map of the state and

presented herewith. Remarkable for the showing in transportation facilities that this may reveal, it does not nearly tell all that may be said in that direction. It refers only to the opportunities for getting to Decatur from every corner of the state offered by the many trains daily of the steam railroads, including the Wabash and Illinois Central, in addition to branch lines of some of the biggest systems of the country. Besides these there is the Illinois Traction System, of which Decatur is the Hub, and which has 180 miles of track in the very center of the state, reaching with hourly cars not only the hamlets, but also the crossroads. A hundred trolley trains a day enter and leave Decatur over this system. Cars from all directions, Danville, Champaign, Bloomington, Peoria, Lincoln, Springfield and East St. Louis, converge at Decatur.

The Committee on Arrangements, Dr. E. J. Brown, chairman, tell us that there will be ample accommodation for all; that the hotels are reserving all their rooms for the Society, and no one need fear that he will not be taken care of. Arrangements can be made for accommodation while in Decatur by writing to this Committee.

## RELATION OF THE PHYSICIAN TO THE COMMUNITY.\*

(A continuation)

### THE EXHORTATION.

Man has blundered on, and happened along his way, through all his ages, and only now has he acquired the knowledge that may offer him some hope of controlling his environment instead of being sacrificed to it; and the application of this knowledge, consistently, purposefully, to the welfare of men, lies with the physician. It is our solemn duty to ourselves and our community to become conscious of the leadership we must take, because others are unprepared.

Let us then begin. Why stand idly and indifferently by until some accident fixes far too low our social place, as recently occurred to our thriftless brethren in England?

The greater the medical profession, the greater the community, but a medical profession that fails to take to itself the authority it needs, does not deserve respect at the hands of the com-

munity it serves with but a fraction of its powers.

Let us not be divided nor misled by the machinations of parties or political leaders outside our own group. Let us furnish our own issues and our own leaders. We have abundance of both.

United in purpose and action, with our own organization thoroughly responsive to the will of its members, let us take an active and guiding part in the economic, industrial, and political life of the community.

And let us begin NOW.

The governmental and industrial systems of the past have arisen out of immediate need. They have been accidental in form, instinctive in purpose, and modified by superstition.

Systems of government, deliberately planned, have occurred sporadically in history. When one has appeared it has been concerned with few people, occupied small territory, and has directed its energies to the accomplishment of a single, specific purpose.

Sparta is perhaps the best example of a planned government. Lycurgus devised its system and established it with a single motive. He believed that by his method Sparta would produce the highest grade of men for fighting. The plan succeeded and the little state retained its governmental form and its territory unchanged five hundred years,—an exceptional period in national histories,—and gave to the world Thermopylæ to be its proudest military boast.

Since Sparta, empire, kingdom, republic, democracy, and hierarchy have come and gone, and each in turn has served the purpose of its time, in the evolution of what we now call civilization. Through all the changes of governmental systems the industrial system continued to be some form of slavery underlying a military organization. Scarcely more than three hundred years ago industrialism, groping blindly, began to gather force, and later established itself as a dominant force in this country. Quickly it conquered the civilized portion of the world.

Passing events seem to indicate that the time has almost come when by understanding based on knowledge man will be able to establish a governmental and industrial system, a system of living, deliberately planned, which will give to the individual secure and positive opportunity



to develop the highest that may be in him, and from the united efforts of a qualified and conscious citizenry, derive still greater benefits for all and carry "civilization" to a still higher plane.

It would seem that with our present knowledge of the minute and of the gross, of the chemical and physical laws of life, of the land and sea and air, we should be able, if sincerely we so desired, to control to an appreciable extent our environment. Why is it that year after year we continue to permit ourselves to be sacrificed to and destroyed by forces that we are abundantly competent to combat successfully? How much longer must man continue to explain his preventable disasters and condone his failures by attributing them to the "will of God" or the "course of nature?"

Since the medical profession constitutes the only community group whose attention has been absorbed in the study of man himself, it is only through the medical profession that the knowledge man has gained can be understandingly applied to the welfare of mankind. We owe it to ourselves to become acutely conscious of the work that we alone can direct. We owe it to the community that supports us to recognize clearly the purpose we should serve in the community, to rouse from the lethargy that is our habit, to overcome the inertia that is so marked a characteristic of our tribe, and to become an active organized and insistent factor in the formulation and establishment of a system of living, a social state, that shall recognize health as the foundation of the common good.

There is a tendency among us to adhere to existing political parties. That is a mistake. By so doing we divide ourselves against ourselves. We lose the opportunity to test our strength, to be seen and felt; we present no issues, raise no question, point out no fault; we submerge ourselves. If, united, organized and determined, we should go before the people, presenting issues embodying common welfare, common health and common sense, because of our peculiarly intimate relation to family groups, we would probably find ourselves, at the first attempt, possessed of rather more than the balance of political power. Until we compel recognition of our political force we shall not be able to serve the community with the best we have to give.

It is the purpose of this little series of papers

to stimulate thought in a domain, vital to the interests of the medical profession, but a little outside of the daily routine of practice. If the vastness of the subject, the infinity of its ramifications, its human intimacy, have been vaguely hinted into consciousness, it is enough; if the suggestion has been plainly made, that the physician, by conscious action, must become the industrial and economic arbiter of the future, a purpose has been served.

The FIELD of Medicine is the Welfare of man. The breadth of that field is as the breadth of the earth, its depth, as the depth of land and sea, and its length, as the length of life.

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### PHYSICIANS' RIGHTS ENDANGERED.

A VICIOUS AMENDMENT TO THE ANTI-NARCOTIC BILL NOW IN CONGRESS.

The Harrison Anti-Narcotic Bill, No. 6282, House of Representatives, referred to the Committee on Finance February 18, 1914, is a sister bill to one already passed by Congress limiting the importation of narcotic remedies, and is an attempt to regulate the use by physicians, veterinarians and dentists of such remedies under severe penalty. This bill, as read in the House, was acceptable to the profession and expressed the general desire to limit the evils of the use of habit-forming drugs to a minimum, although it required physicians as well as druggists, wholesale and retail, to take out a government permit on payment of a dollar annually. Senator McCumber, fearing that the original wording of the bill might be interpreted as forbidding the physician to send by messenger to patients at a distance remedies for immediate relief, conferred with members of the National Drug Trade Conference, and decided that physicians' rights in the matter were properly protected. In the Senate, however, Senator Knute Nelson of Minnesota amended the following section:

"Nothing contained in this section shall apply to the *dispensing* or *distribution* of any of the aforesaid drugs to a patient by a physician, dentist or veterinary surgeon registered under this act in the course of his professional practice only, provided that such physician shall have been specially employed to prescribe for the particular patient receiving such drugs or articles; and providing, further, that such drugs shall be

dispensed in good faith and not for the purpose of avoiding the provisions of this act."

Mr. Nelson amended by striking out the words "dispensing or distribution" and inserted in lieu thereof the word "*administration*." Further, he added to the above paragraph the words "and provided, further, that such physician, dentist or veterinary surgeon shall keep, or cause to be kept, a list of the *names and addresses of all persons to whom the aforesaid drugs were so administered*, and the date thereof, and shall preserve such names and addresses for a period of *two years* from the dates thereof, in such a way as to be readily accessible to inspection by the officers, agents, employes and officials hereinbefore mentioned."

It is difficult to speak in moderation of such an attack on the immemorial privilege of the profession to give to patients personally or otherwise, when necessary, such remedies as are necessary for the immediate relief of pain or other severe symptoms, when the physician cannot attend on the instant. The matter of keeping a record, if construed as it evidently could be, to include a careful record of every dose sent or administered would be irksome, but might be endured by the profession if necessary to overcome some great and urgent evil. But the prospect of keeping such records will not be relished even by men doing an office business, and for the great mass of the profession engaged in family practice it would mean an almost impossible hardship. The word "*administration*" in the Nelson amendment can clearly be held to forbid all giving of medicines except on personal attendance.

The provision of the bill requiring that the physician must be specially employed to prescribe for the particular patient might be construed to prohibit the giving of immediate relief in cases of accident, as in railroad wrecks, where the physician might be present.

The animus of Senator Nelson's amendment can be inferred from an article in the *Journal* of the N. A. R. D., which on March 26th, in a communication, made the following statement: "It is suggested that it (H. R. 6282) be amended to take from physicians, dentists and veterinary surgeons the right of dispensing or distributing the drugs enumerated in the bill by giving them the right of *administering*." This suggestion

smells so strongly of the Nelson amendment that it may fairly be assumed that the National Association of Retail Druggists is back of the bill. It seems quite evident that the Druggists' Association is attempting to limit physicians to prescribing. Another joker exempts patents and proprietaries through a skillful juggling of the requirements of the Pure Food law in the matter of stating on the label the amount of drugs contained.

It is up to the medical profession to make their desires known instantly by communicating with their senators and representatives in Congress, that the Nelson amendment may be killed. The bill, as passed by the House, may be accepted as satisfactory, although it reaches the limit of endurance in the matter of supervision by the government. Representative M. D. Foster is a member of the House Committee which introduced the bill, and is a physician. Senator Gallinger of New Hampshire is also a physician, and possibly a united protest made to any of these gentlemen would save the profession from a disastrous experience and our patients from unrelieved pain and suffering.

#### DEATHS FROM SALVARSAN

A very unfortunate occurrence in Los Angeles has followed the giving of salvarsan. Aside from those directly interested, it is unfortunate that such fatalities happened, because of the sentiment which will operate against a very useful therapeutic agent. As is usual, the newspapers have given the matter full publicity, much of which is probably not in accord with the facts.

Superintendent Whitman's report to the Board of Supervisors included a statement of Dr. Charlton, who administered the salvarsan, giving the technique as used by him for the administration of the drug.

##### STATEMENT OF DR. CHARLTON.

On Friday the 6th instant, between 9 and 11 a. m., I withdrew about 15 c.c. of blood from the veins of the arms of eight patients, and from two others about 6 c.c. of blood only was obtained. The amount of blood received from the two latter patients furnishing an insufficient quantity of serum for the spinal treatment, I decided to make a dilution which would include eight spinals and two intravenous treatments, and this was done. Two ampules were used for this dilution. On account of the lapse of time the intravenous was not used.

The blood was taken through sterile pipette placed



in sterile centrifuge tubes and the serum separated from the fibrin and red cells. The serum, which was perfectly clear, was pipetted off to the amount of 5 c.c. and this was placed in a sterile glass stopper bottle; to this was added one, two or three milligrams of freshly dissolved neosalvarsan in sterile normal salt solution. Following this there was added to the preparation 8 c.c. of sterile normal salt solution, using a sterile graduated all glass syringe. This procedure was carried out absolutely with the serums from each of the eight patients separately. The preparations were then all placed in a water bath at a temperature of 54 C. for one-half hour. They were then placed in a refrigerator for twenty hours, each bottle labeled with patient's name and dosage for each.

#### TECHNIQUE OF ADMINISTRATION.

Under the usual aseptic conditions from three to seven c.c. of spinal fluid was drawn from each patient. Then from each individual bottle there was taken the diluted salvarsanized serum, using a sterile graduated glass syringe, and with this syringe the contents was introduced through the same needle by which the spinal fluid was withdrawn.

The most plausible explanation of the cause of death in these cases is that oxidation had taken place in the neosalvarsan. This could have occurred through some defect in the glass container that was not apparent at the time the preparation was used.

### ALIENISTS AND NEUROLOGISTS MEETING.

The Chicago Medical Society will hold its Third Annual Meeting of Alienists and Neurologists of the United States, for the discussion of mental diseases in their various phases, July 14 to 18, 1914.

It is the object of the Society:

First—To have a scientific program. The titles of papers already received for this meeting indicate such a program, including research work, that will be beneficial to every physician, whether connected with an asylum, sanitarium, or in general practice.

Second—One that will be educational to the public as well; therefore one day is to be devoted to the discussion of the prevention of insanity and the conditions causing mental defectives, to which the public will be invited.

Committees have been appointed to report on the causative factors in acquired insanity and inherited mental defectives, from alcoholism, epilepsy, infectious diseases, especially syphilis, and the effect of environment upon mental defectives in their relation to criminology.

Resolutions will be introduced and discussed for the framing of such laws that will, in a reasonable measure, prevent these conditions, and such resolutions will be presented to the various State Legislatures, and the National Government for their consideration.

Third—A committee will report on what constitutes a modern hospital or asylum, and what the duties of the state to the physician who makes the care of the insane and mental defectives a specialty.

Arrangements have been made with the Post Graduate Schools of Chicago to give a complimentary course in all lines of work for the remaining days of July. This course will embrace internal medicine, surgery, and special regional surgery, cystoscopy, x-ray, brain pathology, vaccine making, and Wassermann reaction, etc. The superintendents and attending physicians are invited to avail themselves of this opportunity for the complimentary course. Tickets for admission to this course can be obtained from the secretary during the meeting. All communications should be addressed to Dr. W. T. Mefford, 2159 West Madison street.

### RESOLUTION INTRODUCED AND PASSED AT MEETING OF THE CHICAGO MEDICAL SOCIETY, APRIL 1, 1914.

WHEREAS, House Bill No. 6282, otherwise known as the Harrison Anti-narcotic Bill, has passed the House and is in the Senate at Washington.

WHEREAS, said Bill as passed by the House was satisfactory to the profession;

WHEREAS, an amendment has been offered by Senator Knute Nelson of Minnesota, practically prohibiting physicians, dentists and veterinarians from dispensing or distributing narcotic drugs to patients by substituting the word *administration* for the words *dispensing and distributing*, in said bill, and

WHEREAS, such amendment would prevent physicians from sending, by messenger or otherwise, remedies for immediate relief when unable personally to attend a patient on the instant, and

WHEREAS, such restrictions upon the efficiency

of physicians tend to limit their usefulness to the people;

WHEREAS, the amendment in question is evidently offered purely in the interest of dispensing druggists to the detriment of good medical service to the people;

WHEREAS, the record-keeping feature also suggested by Senator Nelson is unnecessary and therefore a needless burden to the profession;

Therefore, be it resolved, By the Chicago Medical Society that the Nelson amendments should be defeated in the interest of public welfare.

Resolved, That a copy of these resolutions be published in the Chicago Medical Society Bulletin and that a copy be sent to each United States Senator and the members of Congress from Illinois.

J. V. FOWLER, *Chairman*,  
C. J. WHALEN,  
E. M. WEBSTER,  
Public Relations Committee.

#### THE SOLLY TUBERCULOSIS SOCIETY.

On January 24, 1914, the physicians of Colorado Springs, particularly those interested in the care and treatment of tuberculosis, met at luncheon and formed a society for the advancement in scientific treatment and prevention of tuberculosis. The organization was named "The Solly Tuberculosis Society," in honor of the late Doctor S. Edwin Solly, of that city.

At the regular monthly meetings of the society some particular phase in the treatment of tuberculosis is to be presented in the form of a symposium covering all the latest writings in various modern languages.

The first regular meeting of the society was held February 17, 1914. At this meeting the question of the influence of altitude and climate in the cure of tuberculosis was presented for discussion. A report was read to the society on some recent experimental work conducted here on blood platelets, showing conclusively, first, that nature attempts to increase blood platelets in tuberculosis; second, that blood platelets are increased in this altitude, and, third, that blood platelets are one source of opsonin. These observations go a long way to prove scientifically that altitude and climate have a decidedly beneficial influence in the treatment of tuberculosis.

#### ILLINOIS STATE MEDICAL SOCIETY PRELIMINARY PROGRAM

ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY IN DECATUR.

May 19, 20 and 21, 1914.

The Program Committee desires that there shall be a wide discussion of all papers read. As an aid to encourage many to discuss the papers read, it was deemed advisable not to print the name of any one to open the discussions. The Program Committee is desirous of securing the names of men who are willing to discuss the papers and invites all members to hand their names with the name of paper they desire to discuss to the secretary of the section in which the paper is read.

#### SECRETARIES' CONFERENCE.

The Needs and Purposes of the Illinois State Medical Society—Charles J. Whalen, Chicago.

Booster Sermon—Charles W. Carter, Clinton.

The Secretary's Wireless, S.-O.-S.—E. W. Oliver, Peoria.

Hobbies—H. C. Blankmeyer, Springfield.

#### SECTIONS 1 AND 2.

Cerebral Edema (Wet Brain) in Chronic Alcoholism—Arthur E. Beifeld, Chicago, and C. E. Sceeth, Chicago.

The Stammering Child—Elmer L. Kenyon, Chicago.

The Psychneuroses and their Treatment—Frank P. Norbury, Springfield.

The Practical Significance of the Adrenal Glands—R. G. Hoskins, Chicago.

Clinical Observations on the Diagnostic and Prognostic Value of Blood Pressure Readings—James F. Churchill, Chicago.

The Role of the Pylorus in the Etiology, Diagnosis and Treatment of Chronic Gastric Ulcer—J. C. Friedman and W. W. Hamburger, Chicago.

Modern Gastroscoy with Demonstration of the Sussman Gastroscope—A. A. Goldsmith, Chicago.

Observations on the Metabolism of the Tubercle Bacilli—A. J. Kendall, Chicago.

Present Status of the Treatment of Tuberculosis—James W. Pettit, Ottawa.

Two Cases of Inversion of the Uterus, Discussing the Mechanism of the Treatment—Walter C. Jones, Chicago.

Radium: Its Use and Limitations in Skin



Diseases (lantern slide demonstration)—Frank E. Simpson, Chicago.

The Dermatoses of Pregnancy—E. A. Fishkin, Chicago.

My Experience with Intravenous Injection of Neosalvarsan—Evlan Sargent, Moline.

Further Advances in our Studies of Syphilis—B. C. Corbus, Chicago.

Two Hundred Cases of Acute Gonorrheal Urethritis without a Complication—I. S. Koll, Chicago.

The Forms and Method of Operation (suprapubic) of Hypertrophied Prostate—Daniel N. Eisendrath, Chicago.

Bone Transplantation into the Spinous Processes of the Vertebrae for the Cure of Pott's Disease, with Report of Cases—Charles M. Jacobs, Chicago.

The Technic of Applying Heat in the Treatment of Inoperable Carcinoma of the Uterus—James F. Percy, Galesburg.

Cure of Retroversions of the Uterus—Henry T. Byford, Chicago.

Axillary, Arteriovenous Anastomosis with Report of Cases—Don W. Deal, Springfield.

Imperforate Anus, with Report of Cases—Marvin H. Smith, Sherrard.

Symposium on Joint Diseases.

Pathology—David J. Davis, Chicago.

Roentgenology—J. T. Case, Battle Creek, Mich.

The Medical Aspect—Frank Billings, Chicago.

The Surgical Aspect—John B. Murphy, Chicago.

Milk Sickness—A. J. Clay, Hoopeston.

Title to be announced later—J. B. Bacon, Macomb.

Oration in Medicine—J. P. Sedgwick, Minneapolis, Minn.

Oration in Surgery: Experimental and Clinical Studies of Colon Stasis—Joseph Rilus Eastman, Indianapolis, Ind.

#### SECTION ON EYE, EAR, NOSE AND THROAT.

Preservation of the Antral Capsule in Operation in Uncomplicated Acute Mastoid Suppuration—Norval H. Pierce, Chicago.

Cases Illustrative of the Interdependence of Oto-Laryngology, Rhinology and Dentistry—Joseph Beck, Chicago.

Treatment of Senile Cataract—W. A. Fisher, Chicago.

The Cataract Operation—Advantage and Disadvantages as Practiced by Col. Henry Smith of India—W. L. Noble, Chicago.

Immature Cataracts—R. J. Tivnen, Chicago.

Indian Operation for Cataract—Watson W. Gailey, Bloomington.

Laryngeal Topography—J. A. Cavanaugh, Chicago.

Concerning a New Sign in Exophthalmic Goiter; A Preliminary Report—George Suker, Chicago.

Removal of Tonsil by Knife Dissection—O. T. Freer, Chicago.

The Function of the Fauical Tonsil and Indication for their Removal—C. F. Burkhardt, Effingham.

The Recognition of Chronically Infected Fauical Tonsils—George E. Shambaugh, Chicago.

Heredity with Reference to the Eye and Ear—J. C. Fisher, Decatur.

Does Ophthalmic Science in the United States Demand an Endowed School of Refraction—J. Whitfield Smith, Bloomington.

Metastatic Carcinoma of the Choroid—F. W. Kettlestrings, Francis Lane, Chicago.

The Prognosis in Squint—Thomas Faith, Chicago.

The Importance of the Early Treatment of Strabismus in Infants—W. R. Fringer, Rockford.

The West Intra-nasal Resection of the Tear Sac for Dacryocystitis, Phlegmon, or Stenosis—J. Sheldon Clark, Freeport.

Report of a case of Hypophysal Tumor—Emory Hill, Chicago.

Statistics at the School for the Blind at Jacksonville—A. L. Adams, Jacksonville.

Conservation of Vision—T. A. Woodruff, Chicago.

Indications for Operative Interference in Glaucoma—H. S. Gradle, Chicago.

#### SECTION ON PUBLIC HEALTH AND HYGIENE.

Certified Milk—R. R. Ferguson, Chicago.

Medical Inspection of Dairy Farm Employees—Julia D. Merrill, Chicago.

Typhoid Fever in Rockford—Prof. Paul Hansen, engineer, State Water Survey, Urbana.

C. F. Crawford, Rockford.

Possible Functions of Municipal Laboratories—Prof. Edward Bartow, director State Water Survey, Urbana.

Future of Preventive Medicine—John A. Robison, president State Board of Health.

Sanatoria of New Mexico—W. T. Brown, Watrous, N. M.

Prevailing Mistakes in the Anti-Tuberculosis Movement—George T. Palmer, Springfield.

## WHO SHOULD ESPOUSE THE CAUSE OF GOOD HOUSING?

The *Employer*, because the efficiency of his working force depends on the kind of air they breathe.

The *Laborer*, because his sole stock in trade is strength and vital energy.

The *Father*, because the health of his family must be his first thought for them.

The *Mother*, because the proper growth of the children is her chief desire.

The *Teacher*, because only the well-housed child can make proper progress in his studies.

The *Health Officer*, because he knows the causes of disease and death.

The *Judge*, because he can trace the relation of bad housing to vice and crime.

The *Clergyman*, because he knows that right relations with others can develop only in a home atmosphere of comfort and content.

The *Citizen*, because he is convinced that civic pride can prevail only when every family has a comfortable home.

The *Charity Worker*, because he sees that bad housing promotes dependency and destroys self reliance.

The *Physician*, because he sees the spread of contagion when families are crowded in cramped rooms.

The *Statesman*, because the first requisite for the healthy growth of the state is the health of the people.

The *Temperance Advocate*, because happy homes mean empty saloons.

—*Bulletin Chicago Department of Health.*

## DISEASE SUPERSTITIONS.

The belief is common among primitive and unlettered people that there is a specific remedy that will cure every disease of the body, if it can only be found.

Ignorant and superstitious people are peculiarly and pathetically susceptible to the persuasion of quacks who profess to have found the healing herb for their particular disease, and will go on squandering money and health after being defrauded a dozen times, because in their simple and pitiful faith they think each time. "Now maybe this man has found the real herb that will end my suffering."

This credulity is a matter for patient teaching. The health of the people is a national asset beyond the

measure of dollars, but even the economic loss from avoidable sickness and death runs into unbelievable figures. The people must be carefully taught—not casually told—that disease is not an accident, not a dispensation of Providence or the infliction of an evil spirit, but the result of environment and of the mode of living. They must learn that health does not return by magic or by magic compounds; but it must be restored by a personal battle against disease.

Generous physicians, newspapers and journals, and social workers who are giving their time and means to fight the powers to prey and spread the gospel of health, realize that education is slow. Thousands are saved every year, but it will take a long strong effort to reach all the people with the truth. If ever there was an unselfish effort, and one of supreme importance to the country, it is the battle for national vitality.

—*Exchange.*

Bad housing promotes community impoverishment—in health, morals, wealth, productiveness and content.

\* \* \*

Good housing, as a factor in community health and prosperity, ranks highest among the sanitary essentials.

\* \* \*

A city's rating in health security and individual opportunity may be fairly gauged by the quality of its housing.

\* \* \*

All is not gold that glitters—a gilded exterior may have the gloomiest of interiors.

\* \* \*

Bad housing is the most serious physical defect of large cities. It is one of the heaviest handicaps in community progress.

\* \* \*

As we exclude sunshine and fresh air from our homes, so do we make business for the doctor and the undertaker.

\* \* \*

Underground living rooms undermine health of the occupants. These are relics of the dark ages.

\* \* \*

Overcrowded housing lots increase the demand for cemetery lots.

\* \* \*

A little house closely surrounded by towering buildings is a home entombed—unfitted as a place in which to live.

\* \* \*

If education begets discontent with bad housing by all means let us have more education.

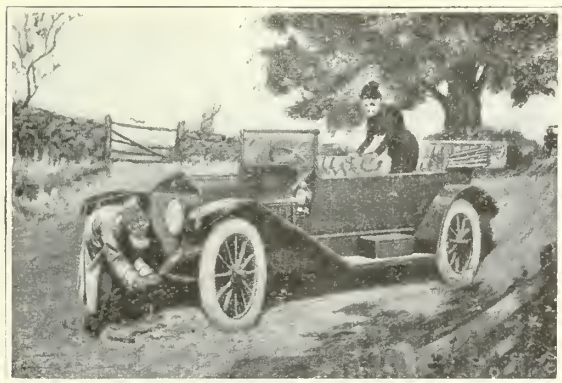
\* \* \*

It's high time for Chicago to do something.

—*Bulletin Chicago Department of Health.*



## Auto Sparks and Kicks



—Courtesy of Harper Bros.

"Be Still, William! Here Comes Our Minister."

### BEWARE! FARMERS' ANTI-AUTO SOCIETY. RULES OF THE ROAD.

The following is the new code agreed upon by the Farmers' Anti-Auto Protective Society, which has just held its annual conventions in the different States in the Union.

1. On discovering an approaching team, the automobilist must stop off-side and cover his machine with a tarpaulin painting to correspond with the scenery.

2. The speed limit on country roads this year will be secret, and the penalty for violation will be \$10.00 for every mile an offender is caught going in excess of it.

3. In case an automobile makes a team run away, the penalty will be \$50 for the first mile, \$100 for the second mile, \$200 for the third mile, etc., that the team runs; in addition to the usual damages.

4. On approaching a corner where he cannot command a view of the road ahead, the automobilist must stop not less than 100 yards from the turn, toot his horn, ring a bell, fire a revolver, halloo and send up three bombs at intervals of five minutes.

5. Automobiles must also be seasonably painted, that is, so they will merge with the pastoral ensemble, and not be startling. They must be green in spring, golden in summer, red in autumn and white in winter.

6. Automobiles running on the country roads at night must send up a red rocket every mile and wait ten minutes for the road to clear. They

may then proceed carefully, blowing their horns and shooting Roman candles.

7. All members of the Society will give up Sunday to chasing automobiles, shooting and shouting at them, making arrests and otherwise discouraging country touring on that day.

8. In case a horse will not pass an automobile, notwithstanding the scenic tarpaulin, the automobilist will take machine apart as rapidly as possible and conceal the parts in the grass.

9. In case an automobile approaches a farmer's house when the roads are dusty, it will slow down to one mile an hour, and the chauffeur will lay the dust in front of the house with a hand-sprinkler worked over the dashboard.

—By a Special Correspondent, with the Anti-Auto Society.

Readers of the ILLINOIS MEDICAL JOURNAL as well as its advertisers are not required to observe these rules.

### PETROLEUM PRODUCTS IN THE AUTOMOBILE INDUSTRY.

There is a romance in the history of petroleum and its products. Its formation began aeons ago, probably before human life even was possible on this planet; it made its first appearance as lakes of pitch or as vast seas of burning oil, ignited by some prehistoric Prometheus to become an object of reverence by the fire worshippers.

Mortorists themselves are indebted to petroleum to a far greater extent than would be imagined at first thought. Not only do they depend on its products for fuel for engine and lamps, but the actual construction of the car involves the use of petroleum products. Ligroin, one of the lightest of the petroleum distillates, is used in the manufacture of tires; paraffin, petroleum wax, insulates the ignition coils; benzine goes into the manufacture of the varnishes for the body; even the roads offer a field for the use of petroleum products. Among these are road materials and binders under the names of asphalt, bitumen, road tar, etc., as well as the heavy oils employed as macadam binders and dust layers being employed.

## Society Proceedings

### COOK COUNTY.

#### Chicago Medical Society.

*Regular Meeting, February 25, 1914.*

1. Candy Medication. Bernard Fantus.
2. Common Sense in Public Health Administration. W. Colby Rucker, Asst. Surg. Gen., U. S. P. H. Service.
3. Physicians Should Dispense Their Own Medicine. Mr. Chas. Truax.
4. The Druggist Should Dispense Medicine from the Prescription of the Physician. Mr. Lee M. Pedigo, Chairman, U. S. Pharmacopeia and National Formulary Committee.

*Regular Meeting, March 4, 1914.*

1. Ureteral Calculi. Diagnosis and Treatment. D. N. Eisendrath.  
Discussion. Louis E. Schmidt and W. S. Barnes.
2. (a) Movement of the Intestines under Artificial Circulation (Cinematograph).  
(b) A Study on Retarded Cinematograph of Athletes in Action. (Film from Marey Institute in Paris.) Prof. Gustav Monod, Paris.

*Regular Meeting, March 11, 1914.*

1. Some Fallacies in the Open-Air Treatment of Tuberculosis. Clarence W. Leigh.  
Discussion. Frederick Tice, Clarence Fheaton, Arthur W. Weis.
2. An Interesting Case of Ambidexterity and Mirror Writing. L. Harrison Mettler.  
Discussion. Wm. O. Krohn.
3. Treatment and Results of Bichlorid of Mercury Poisoning. Thomas A. Carter.  
Discussion. Maximilian Herzog, J. J. McGuinn, Frank Byrnes, J. M. Hirsh.

*Regular Meeting, March 18, 1914.*

1. The Differential Diagnostic Value of Cyclic Indicanurea for Surgical Lesions of the Gastro-Intestinal Tract. Gustav Baar, Portland, Ore., and Karlsbad, Austria.
2. Some Points in the Pathology and Treatment of Visceroptosis. Charles Spencer Williamson.  
Discussion. Emil Ries.
3. Medicine as Practiced Among the Eskimos and Diseases Peculiar to the Arctic Region. Illustrated by Lantern Slides. Frederick A. Cook, New York.

### ENGLEWOOD BRANCH.

The March meeting of the Englewood Branch was held Tuesday evening, March 3, at the Englewood Hospital.

The following scientific program was presented:

- Autogenous Vaccines in the Treatment of Chronic Pus Infections, Max L. Mendel.
  - Vaccine and Serum Therapy, Walter H. Buhlig.
  - Antistreptococcus Serum, George H. Weaver.
- Dr. Weaver was unable to be present, but those

present were amply repaid by the fine papers of Drs. Mendel and Buhlig.

The subjects were covered in a most thorough manner and along the lines of the most recent investigations and much of it based on personal experiences.

The discussion was opened by Dr. V. D. Lespinasse. Others who entered the discussion and brought out valuable personal experiences were Drs. Rieble, Boomer, Mundt, Armstrong, Waterman, Hess, Stevens, Lovewell and Mather.

The meeting proved a good one and very instructive.

The attendance was 68.

ARTHUR G. BOSLER, Secty.

### CHICAGO OPHTHALMOLOGICAL SOCIETY.

A regular meeting was held Monday evening, October 20, 1913, with the president, Dr. Willis O. Nance, in the chair.

#### SPOROTRICHOSIS OF THE CONJUNCTIVA.

Dr. William H. Wilder reported the following case: C. P. M., a student, had been working in the laboratory with cultures of various stains of sporothrix and on several occasions small capillary pipettes containing emulsion of the organism were broken at a distance of eight or ten inches from the face.

On the evening of July 10, 1913, he noticed a soreness of both eyes, together with photophobia and a sensation as if a foreign body was under the lids. The following morning the lids were slightly swollen, the pain was increased and the surrounding lymph glands were quite tender on pressure.

July 11 the general condition was good. There was no fever. Leucocyte count was 9,000. The pain, swelling of the eyelids and photophobia increased. The conjunctiva of the eyelids of both eyes was reddened and so swollen that the fornix rolled out in a mass when the lower lids were everted. In addition there were present on the palpebral conjunctiva and also on top of the fornices several grayish-yellow, slightly elevated spots varying in size from 0.5 mm. to 2 mm. in diameter from some of which the covering epithelium had been cast off, so that they seemed like small yellow ulcers. Numerous follicles presented in other portions of the conjunctiva. The secretion was rather scanty and an examination of a smear made from gentle scraping over the spots and conjunctiva, stained with alkaline methyl-blue, showed no organisms, but numerous pus cells. The next day scrapings were taken from the shallow ulcers and aerobic and anerobic cultures were made. Potassium iodid, 10 grains, three times daily. The eyes were washed out several times daily with a solution of oxycyanid of mercury, 1-4000.

July 16 the condition not improved, swelling of the preauricular glands, which were painful on pressure. Because of discomfort from the irritation the strength of the solution of oxycyanid was reduced to 1-6000. No growth in the tubes which were placed at room temperature (18 to 20 degrees C.).



July 17 the condition of the lids was no better; there were more yellowish spots seen forming in the conjunctiva. The patient seemed quite sick and had a temperature of 100.5 degrees F. The preauricular, anterior cervical, submaxillary and postauricular glands were somewhat swollen and painful on pressure. The small ulcerated spots on the conjunctiva were treated with tincture of iodine.

July 19 general condition worse and patient went to bed; temperature, 102 degrees; leucocytes, 14,600. During the night a sudden pain occurred in the left knee on the internal side of the upper end of the tibia; in the morning the limb was very sore, painful on pressure or motion, but without swelling or redness. On application of ice bag after twelve hours this pain disappeared. The swelling of the conjunctiva was somewhat less and no new spots had appeared. Iodid increased to 20 grains three times daily.

July 21 sharp pain in the left elbow and wrist and lower end of the right femur, especially on motion and pressure; temperature, 100.6 degrees in the afternoon.

July 23 ulcers healed, in the morning all the pain had disappeared except in the left wrist. During the night severe pains in the right knee around the head of the tibia and also in the right ankle. Temperature, 100.3 degrees in the afternoon; leucocyte count, 11,200.

July 24 all pain disappeared. Temperature, 99.4 degrees. The conjunctiva still red and the fornices considerably swollen. From this time on the temperature remained normal and also the leucocyte count. The swelling of the glands disappeared, but the subconjunctival tissue of the fornices remained swollen for some days and in about two months the lids presented a normal appearance.

After giving a detailed report of the microscopic examination and cultures Dr. Wilder stated that from a study of the cases that have been recorded and of the one he has observed he should say that infection of the conjunctiva by sporothrix causes a marked congestion of the membrane, particularly the palpebral portion, the fornix and semilunar folds. The bulbar portion is not so markedly affected. Numerous follicular prominences appear in the palpebral conjunctiva and the fornix.

Small yellowish nodules, varying in size and shape, develop rapidly in the conjunctiva and these may ulcerate. When opened the contents of the nodules do not escape rapidly as from small abscesses, but seem to be of a gummy consistence. These little nodules developed so rapidly in the case that we observed that on the second day new ones presented that had not been seen the day before.

Secretion is rather scanty and hardly sufficient to stick the lids together at night, but lachrymation is rather abundant. The eyelids are somewhat edematous and thickened and palpation shows a well marked induration of the subcutaneous tissue. Enlargement

and tenderness of the neighboring lymph glands are also present.

Subjectively there is a sensation of a foreign substance under the lids, and so much discomfort that use of the eyes is almost impossible. This discomfort comes on rapidly after the infection. The two cases of laboratory infection (that of Fava and the present one) and the absence of a history of trauma in the other cases seem to show that the sporothrix is able to penetrate the normal conjunctiva. It also appears from the report of cases that infection of the eye may be secondary to a generalized sporotrichosis. Probably in most of these cases the infection is ectogenous, but the suspicion that it may be endogenous in character is aroused by the case of La Personne in which after a violent irido-cyclitis and perforation of the eyeball, sporothrix was obtained from the contents of the bulb. That general symptoms may arise from a primary lesion of the eye is indicated in our case by the fever, leucocytosis and pains in the bones of the extremities.

As to the diagnosis, some of the clinical features of his infection are common to other conditions. Lymphadenopathy would be present with chance of the conjunctiva, but in this condition it is unusual to have such multiple erosions or ulcerations and scrapings from such an ulcer would probably show the characteristic spirochete.

Tuberculosis of the conjunctiva would probably not be so rapid in its course and it would be a week or more before the caseous tuberculous nodules would break down and form the ulcer, whereas in sporotrichosis the little ulcers develop in a few days.

Parinaud's conjunctivitis presents more points of similarity and it is possible, as mentioned by Morax, that cases of sporotrichosis may have been mistaken for Parinaud's conjunctivitis.

Mr. C. P. McCullough stated that the diagnosis of the organism bacteriologically is comparatively easy. Scrapings were first taken from the eye and inoculated on various kinds of media, aerobic and anaerobic, but non-aerobic cultures showed no organisms. At the end of 72 to 84 hours there were slight colonies which appeared on one per cent dextrose agar media. These appeared as slightly raised, grayish-white colonies, pin point in size, but at the end of four days the colonies formed the characteristic appearance, grayish-white, elevated and with a peak that runs almost like the peak of a mountain with corrugated surfaces. The three original culture tubes showed the characteristics of the organism. Examination with the microscope showed best with Gram positive stain. The organism retains Gram positive and at the end of 48 hours there were mostly filamentous growths in the shape of conidia. At the end of three or four days' growth the microscopic appearance is practically that of conidia, very little of the filaments being seen. Bacteriologic tests were made of the organism, tested from an immunological

standpoint. The agglutination reaction as well as the opsonic index was gradually increasing each day.

Experiments were tried out to see whether or not various strains of the organisms could be identified. In the work with the sporothrix he has been using five different strains, four strains isolated in this country and one isolated in France, and it was found they could not identify the organism from a bacteriologic or cultural standpoint, so that immunological tests were tried and there was no difference between the types of the organisms at all.

Dr. Ludwig Hektoen reported the case of a boy who lived in Iowa. The boy hit the index finger with a hammer and there developed various subcutaneous nodules. It was from the pus of these nodules that the sporothrix Schenkii was isolated. Since that time about fifty to sixty cases of this disease have been described in America. The majority of cases have occurred in the Missouri valley. There seems to be some condition peculiar to that valley which favors the development of this organism, which is supposed to grow on grasses or vegetables, although it is not known exactly how infection occurs in nature. There is only one case reported of contact infection.

Dr. Hektoen showed slides illustrating the later phases of the disease. It was the chronic course of the infection that led Schenk, when he described the first case, to describe it as a case of refractory subcutaneous abscesses. Eventually they healed perfectly. The disease can be reproduced very nicely in white rats and white mice. On a slide he showed the body of a white rat inoculated intraperitoneally and the scattered whitish masses were nodules that developed. These nodules contain pus and in the pus are the spores. It is difficult to demonstrate conclusively the presence of spores in the pus from human cases, but they resemble very much fragments from leucocytes and other nuclear detritus, but in some of the smears from the eyes of the patient whose case was reported by Dr. Wilder he thought the spores could be seen, but he has not absolutely sure about it. The same disease caused by the sporothrix develops in the horse and gives rise to subcutaneous nodules the same as those that occur in the disease in man.

It is interesting to note that 22 of the American cases of sporotrichosis have been described as having occurred in North Dakota. Some of these cases were described originally as tuberculous ulcers of the skin.

#### THE RELATION OF INCREASED INTRAOCULAR TENSION TO ACUTE OR CHRONIC ACCESSORY SINUS DISEASE.

Dr. Henry Manning Fish stated that increased intraocular tension and various ocular symptoms suggesting glaucoma appearing in connection with disease of the nasal accessory sinuses have been reported by Quagline, Lennox Browne, Cozzoline, Berger,

Ayers, Ziem and others. The author in 1907 reported two cases of primary glaucoma and one of secondary glaucoma in which marked amelioration of the symptoms resulted after drainage of the sinuses with improved vision and increase in the size of the visual field.

Several cases with glaucomatous symptoms, some of which showed marked improvement following treatment of the sinuses, are included in the author's paper.

Dr. Oliver Tydings has had such cases as were reported by Dr. Fish. He had such a case in his office last week of increased intraocular tension on account of a sinus condition.

#### OSTEOMA OF THE ORBITAL CAVITY.

Dr. Oliver Tydings reported a case in which he removed a vascular bony tumor from the orbital cavity.

#### OXALIC ACID BURN OF THE EYEBALL.

Dr. George F. Suker reported the case of a woman who had divergent concomitant strabismus and on whom he did advancement and shortening in one eye. Vision in each eye was 20/20. He went through the usual procedures in this case. The cornea began to be hazy, and he thought the excessive use of cocaine may have caused the condition of the cornea. He suggested to the intern that he thoroughly flush out the eye with boric acid and wait a moment or two, close the lid and open it. On reopening the lid he dropped in more of the solution and in the meantime the cornea became quite white, and all the patient could do was to count fingers at one foot. He subsequently found out that a mistake had been made in solutions. The line of treatment was the instillation of warm olive oil, a warm compress and irrigations every ten or fifteen minutes. She left the operating room able to count fingers at one foot and the cornea practically opaque, with very little swelling, but intense pain. From this time the cornea cleared up and for the space of about two weeks vision was 20/20. The burn corresponded with one produced by carbolic acid. A mistake had been made in handing him the oxalic acid solution. In the same connection he spoke of a sulphuric acid burn as the result of a golf ball explosion.

Dr. Wilder asked what make of golf ball contained sulphuric acid.

Dr. Suker replied: "Water cores."

Dr. Wilder said these were not made any more or were not used. The old colonel did not contain sulphuric acid. He did not see how any golf ball could contain sufficient acid of caustic strength and be serviceable as a golf ball.

Dr. Frank Carroll said he had confirmation of the fact that golf balls contain sulphuric acid. A little patient of his, a boy, was whittling a golf ball down to get the rubber bouncer inside until he reached the center, and then some juice spurted in his eye. The eye was saved, but examination of the contents



of the ball showed that it contained a weak solution of sulphuric acid.

Dr. Willis O. Nance saw the case Dr. Suker had reported about twelve or fifteen months ago. It was the first he had heard or seen. The last analysis he had seen reported in ophthalmic literature was that the contents of these balls were a combination of chlorid of lime and soap. He did not know they contained sulphuric acid. He could hardly see how a solution of sulphuric acid strong enough to do any damage could be contained in the rubber container. He had seen two or three cases since that time.

Dr. H. B. Young, Burlington, Iowa, mentioned a mistake which occurred in one of the hospitals in Burlington, where a nurse was supposed to have given a solution of boric acid to wash out the eye of a new-born baby, but investigation showed she used oxalic acid. Boric acid solution for flushing out the eyes of a new-born baby was absolutely useless in his experience.

Dr. Nance saw a case of oxalic acid burn of the eye two years ago which occurred in a trained nurse in one of the hospitals of Chicago. The eye of the nurse was irrigated with a solution of boric acid supposedly by another nurse and immediately following the instillation or irrigation of the eye, considerable pain resulted and the nature of the fluid used was discovered. The eye was immediately irrigated with a true solution of boric acid. Other than a conjunctivitis, which persisted for four or five days, no ill result followed the accident.

Dr. A. L. Adams of Jacksonville reported another case of golf ball accident in a child that was standing by watching two boys open a golf ball and the fluid spurted into the child's eye. The child was brought to the hospital. He found a whitish eschar extending to the corner of the inner canthus, but not involving the cornea. On the theory that it was caustic alkali he washed out the eye with boric acid solution and used it as a liniment, and the eye healed under that treatment in a few days.

Dr. Willis O. Nance said it was very essential to find out the nature of the fluid in cord balls by chemical analysis. The society should have an examination made of the contents of this fluid in golf balls with the intention of knowing positively what the contents are. If it is an acid, treatment would be entirely different than if the fluid was an alkali. These cases were getting to be not very infrequent.

Dr. E. J. Gardiner said the golf association has issued a warning about these balls and he thought their use would be discontinued.

Dr. William H. Wilder said the manufacturers of the colonel ball, which was a core ball, had discontinued making it since so many accidents had been reported. One type of ball had been found to contain a paste made of chlorid of zinc and soap. When such injuries were likely to follow the public should be warned. It would be a good move for the society to take some action upon the matter and send out

as a society a note of warning, calling the attention of the public to the injurious effects of such things, and he believed the proper medium would be an announcement through the council on health and public instruction of the American Medical Association.

#### GONORRHEAL CONJUNCTIVITIS.

Dr. Douglas A. Payne reported an interesting case of gonorrheal conjunctivitis which demonstrated: 1. The great danger to which the public exposed themselves in allowing untrained persons to remove or attempt to remove foreign bodies from the eye. 2. The possible danger of infection of the eye in barber shops and by barbers' utensils. 3. The necessity for hospital care of these cases. 4. The necessity for intelligent and conscientious handling of cases of this nature by careful and competent nurses. 5. The necessity for the education of the public of the dangers that lurk in unknown and hidden places.

Dr. E. S. Antisdale exhibited an instrument to facilitate the more thorough treatment of gonorrheal ophthalmia and also protect the cornea.

#### UNUSUAL RETINAL LESION.

Dr. W. A. Hager, South Bend, presented a young man, 23 years of age, who had the usual diseases of childhood. At 15 he began to have an unusual condition of the retina, which was present in one eye. Two years later the other eye became affected. He wanted information from the members as to their diagnosis.

Dr. C. G. Darling thought the case was one of reattachment of the detached retina. The defects in the field corresponded to the part of the retina which appeared to be detached. The defects in the field corresponded exactly to the white line that runs across the retina. Below the field is cut off. In the other eye the field is cut off in the same manner.

Dr. W. H. Woodruff of Joliet said the condition was quite different in the two eyes. The white lines were quite evident. In the right eye he was not certain it represented detachment of the retina. In the left eye the lines followed the blood vessels, indicating there had been disease of the vessels' walls. If it was a detachment of the retina there was evidently the primary condition of chorioretinitis or an atrophic condition following a chorioretinitis.

Dr. W. F. Coleman said there was undoubtedly detachment of the retina and some of the opaque fibers might be reattached. He had a case at present which had bothered him as to whether it was a simple, ordinary detached retina. He thought it might be a case of angioneurotic edema.

Dr. Harry S. Gradle differed from Dr. Darling and said from the history there was a gradual onset in both eyes extending over weeks and months, without any sudden loss of vision or sudden loss of the field of vision in any way and there was no time in which there was improvement in vision. Detachment of the retina would mean a difference in the height of the retina at different points and this was

scarcely noticeable. There might be an atrophic condition of the choroid in one eye, particularly the tempore-macular ridge, which would scarcely come under the head of detached retina.

Dr. Willis O. Nance expressed the opinion, after examining the left eye, of retinal edema being present. As to the cause of that edema he did not know.

#### THE ART SIDE OF LENSES.

Dr. J. Whitefield Smith, Bloomington, said the expression of the eye depends in such a large measure on the size and shape of the palpebral fissure that whatever shaped lenses are to be used they should not mar this most essential feature. Since the shape of the palpebral fissure is of so much importance in the expression of the eye and the expression of the eye is so essential to the other features of the face, it is evident that the whole countenance is influenced by it. Furthermore, since the lines that describe its shape and dimensions conform very closely with the shape of the superior border of the orbit, the arch of the brow, the deep fold of the upper lid beneath the brow, the folds on the surface of the upper lids, the curved direction of the lashes, when the lids are open and the folds on the surface of the lower lid, it would seem that lenses corresponding to their outlines would complement these natural lines and lineaments about the eyes and add to the expression of the features of the face rather than detract from them by cutting these lines, as is done by the use of broad oval lenses.

In all expressions of art we must recognize as a fundamental principle the fact that lines and forms must harmonize with other forms and lines, the elements of which meet in friendly co-operation. This sense of relationship or co-operative relation is at the basis of all design.

The three fundamental elements or essentials of design—line, form and space—should be carefully considered in the construction of lenses if they are to reflect the expression of the eyes and harmonize with the features of the face. The line or the circumference of the lens is of much more importance, for it defines or expresses the forms of the lens.

In all cases of eye surgery eye operations should be performed when practical, causing as little disfigurement to the patient as possible, so in the application of lenses the cosmetic effect should not be neglected or ignored.

Dr. Clark Hawley said that oculists neglected the art side in prescribing glasses for patients. For many years no glasses had been put on any of his patients without an order being written for every measurement he might think of to make the glasses of the proper shape so as to harmonize and conform to the features of the face.

#### ORTHOTIC ALBUMINURIA.

Dr. Frank Carroll of Cedar Rapids, Iowa, stated that this condition is not at all infrequent; that it occurs in children otherwise apparently normal; that

in many cases it occurs only as a concomitant symptom of a constitutional lack of development, the evidence of which may be found universally distributed throughout the body. In many cases no constitutional symptoms are found and this peculiar albuminuria manifests itself in the eyes alone. This albuminuria is not constant, but may disappear from time to time and recur at frequent intervals. Most of these cases are found in children with a neurasthenic tendency and sometimes may be grave indeed, although in the majority of cases rest is all that is required to make the child well. Sometimes the albumin will persist in the urine when all of the other symptoms have disappeared.

In children of a decided neurasthenic tendency the treatment must be a general one and not directed to the eye wherein the diagnosis was made, nor must it be a dietetic or postural one aimed at the albuminuria per se, but must be one to restore the entire nutritional condition of the child to a normal level, when it will be found that the albumin will spontaneously disappear.

The diagnosis of orthotic albuminuria is not especially difficult, and yet it depends very largely upon the accuracy with which the urine examination is performed. The diagnosis cannot be made in a single or even sometimes in a dozen examinations, and may require at least twenty-five to fifty examinations to really establish a diagnosis of this disease, although the author believes that a fairly certain diagnosis may be made by the oculist from the condition of the fundus at any time.

In this case he examined the fundus and discovered a condition of the retina which caused him to send her to her family physician for an examination of the urine, as he suspected a slight nephritis, and yet really had no strong grounds for the diagnosis. The physician made careful examination and the diagnosis of orthotic albuminuria was established. The patient has been held under careful observation and she is now apparently well and her treatment has consisted principally in the non-use of the eye and care of the body.

Dr. George F. Suker mentioned a case that came under his observation a number of years ago of a young man, 25 years of age, who had had orthotic albuminuria for fifteen years and prior to that time did not know anything about it. When he underwent arduous work in the evening, about five or six o'clock, his retina would lead him to believe that he had optic neuritis or neuroretinitis, and the following morning, after a good night's rest, the retina would clear up entirely.

On Sundays he had no trouble with his eye. Albumin could be obtained from the urine the latter part of the day, but never early in the morning. The albuminuria was not pathologic, because these patients did not go on to nephritis, but cleared up in the course of time. If they persisted beyond the age of puberty they persisted everlastingly. As a rule they stopped



in the acute stage. None had gone on to the typical picture of albuminuric retinitis. They had asthenopic symptoms, with retinal exhaustion, and gave the picture of retinal hyperemia which one might think was a neuroretinitis.

Dr. Frank Carroll, in closing, had seen half a dozen cases other than the one he reported as under observation now and what Dr. Suker had said was true.

#### AN ANATOMIC STUDY OF A CASE OF TEMPORAL CONUS (COLOBOMA) IN AN HYPEROPIC EYE.

Dr. E. V. L. Brown stated that the essentials of the entire finding consist of a crescentic defect in the pigment epithelium and all the layers of the chorioidea along the temporal border of the disc in an eye of the hypermetropic type (23 mm. axial length). The chorioidea stops a considerable distance temporal to the disc. Almost the entire defect is bridged over and filled out by a fold or duplication of the retina. This is a direct continuation of the two nuclear layers of the retina. The nerve fibers go over into the nerve head in a normal way. The anterior layers of the sclera are absent over the floor of the conus, but the sclera is nowhere ectatic, either behind the conus or elsewhere.

In myopic conus the length of the eyeball is increased and the chorioidea torn away from the margin of the disc. The condition is therefore developmental and not congenital, as must be assumed in our case from the short axis. In the non-myopic eye the conus, or coloboma, is due to an overgrowth of the secondary optic vesicle at its junction with the optic nerve at a time when the mesoderm of the sclera and chorioidea has not yet been laid down. The retinal fold then effectively blocked the developmental of the chorioidea and sclera at the nerve and the conus results.

In the only other case reported, that by Elschnig, the temporal conus (coloboma) was deeper and involved the optic nerve sheaths.

WESLEY HAMILTON PECK, M. D., Secretary.

#### EFFINGHAM COUNTY.

Meeting of March 10, 1914.

##### PROGRAM.

1. Unfinished business. Safety First.
2. Care of the New Born, Dr. E. L. Damron.

Thousands of babies die annually from neglect. It is a great loss. Why not stop it *now*?

3. Child-Bed Fever. Dr. F. W. Goodell.

To disarm the ministers of untimely death, to dispossess the cruel fates, to make American motherhood confident and secure in her sovereign function—such is the aim of our profession.

4. Some of the Mistakes of the Country Doctor. Dr. C. M. Doty.

This is an important subject. By our mistakes we

learn to do better though it is not human to be perfect. Delicate because human life is sacred and most of us would rather talk of our successes. It is said lawyers' mistakes are hung on the gallows and doctors' mistakes are buried beneath the ground. One of our worst mistakes is in not getting together and staying together for the advancement of science and our own protection.

E. W. BROOKS, Secty.

#### GREENE COUNTY.

The Greene County Medical Society held its regular meeting in the Illini Club rooms at Carrollton, March 13, 1914. Members present were Doctors H. W. Smith, C. R. Thomas, L. O. Hamilton of Roodhouse; F. H. Russell of Eldred; J. A. Cravens, H. W. Gobble of Greenfield; E. E. Jouett, S. F. March, L. O. Hensler, Jas. Squires, Howard Burns, G. W. Ross, J. O. DeCourcy of Carrollton; H. W. Chapman, H. C. Campbell, L. O. Fresh, F. N. McLaren and H. A. Chapin, White Hall. Visitors, Doctors C. E. Black of Jacksonville, and C. D. Center of Quincy.

Meeting was called to order at 2 p. m. by the president, F. N. McLaren.

Secretary made a report in regard to the payment of dues to the State Society and explained how the County Society was each year in arrears for the annual dues to the State Medical Society. None of the members having paid for 1913 until December 1913, and the 1914 now being due to the State Society on or before the 15th day of April. On motion of H. W. Chapman the secretary was instructed to collect at once the 1914 dues and pay the same to the state secretary at the time required by the constitution.

Next order of business was the election of delegate and alternate to the State Society for a term of two years. After the ballot the following were declared elected: H. A. Chapin, delegate, and H. W. Chapman, alternate.

The applications for membership of L. D. Hughes of Carrollton, J. J. Lewis of Hillview, and R. O. Hawthorn of Roodhouse were presented to the board of censors for report at the next regular meeting.

The program of the day was confined entirely to a discussion of fractures with a demonstration of the application of splints and treatment of the same. Papers were read as follows: Dr. L. O. Frech, "Fractures of the Clavicle"; H. W. Smith, "Colles' Fracture"; H. W. Chapman, "Demonstration of Hodgen's Splint in Fracture of Femur"; S. F. March, "Pott's Fractures." Each essayist gave a very interesting demonstration and the meeting was considered by all present a very profitable one.

The committee reported the next meeting of the society to be the annual picnic held at Belltown Spring, second Friday in June, after which the society adjourned.

H. A. CHAPIN, Secty.

### IROQUOIS-FORD MEDICAL SOCIETY

The Iroquois-Ford Medical Society held its regular quarterly meeting and dinner in the New Gilman House, Gilman, Ill., Tuesday, March 3, 1914, at 1 p. m.

In the absence of Dr. N. T. Stevens Dr. H. R. Struthers occupied the chair.

The scientific program was opened by the reading of a paper on "Anencephalous," by Dr. C. W. Sever of Sheldon. J. Y. Shamel of Gibson City followed on "Minor Injuries." "A Matter of Conscience" was handled by Dr. J. L. Shawl of Onarga, "Recent Advances in Medicine" by Dr. Chas. S. Mellen of Piper City, "A Retrospect" by Dr. Chas. F. Smith of Kankakee.

Dr. T. N. Boue of Loda led the discussion of Dr. Smith's paper, giving reminiscences of early practice in Iroquois County.

On motion Dr. Charles F. Smith, of Kankakee, was tendered a vote of thanks.

On motion Dr. J. H. Gregory of Milford was elected a member of the society.

Applications of Dr. E. J. Rueck of Thawville and Dr. E. C. Hack of Cissna Park were presented and referred to Board of Censors.

An amendment of our by-laws was presented to be acted on at our next regular meeting to strike out Section 3 of Chapter 2.

On motion the secretary was instructed to write every member of society and get his individual opinion of the proposed changes in new fee bill.

On motion meeting adjourned.

D. W. MILLER, Secty.

### MADISON COUNTY.

The Madison County Medical Society met in Granite City, March 6, 1914. On account of the absence of our president, Dr. L. G. Burroughs of Collinsville, vice-president presided. Members present: Drs. R. W. Scott, Darner, W. H. C. Smith, Cowan, Ferguson, Schroeder, Schreifels, Burroughs, Range, Barnsback, Zoller, Hirsch, Spitze, Oliver, J. W. Scott, E. F. Fisher, Robinson, Pfeifferberger, Kerchner, W. R. Smith, Binney, Wedig, W. T. Davis and E. W. Fiegenbaum. Visitors: Drs. H. A. Brandes and F. F. Gardner, both of Granite City.

The minutes of the last meeting were read and approved. The application of Dr. Harry A. Brandes of Granite City was read and referred to a special board of censors, consisting of Drs. Robinson, Schreifels and Zoller, who reported favorably, and on suspension of rules the secretary was instructed to cast the ballot and the candidate was declared duly elected.

The speaker of the day, Dr. R. Walter Mills of St. Louis, was then introduced and gave us an address on the "Stomach." This address, like the one this same speaker delivered a year ago, was mainly on the shape and position of the normal stomach and was illustrated by more than 100 plates and radiographs made from healthy normal subjects and clearly

demonstrated that our previous conceptions of the position of this most useful organ required a revision. He proved beyond a shadow of a doubt that in about 33 per cent. of all normal subjects the lower border of the stomach could be found at or below the crest of the ilium, in the pelvis. The doctor is doing much research work in this department, having spent all of last summer at the medical centers of Europe in the line of his work. He gave us one of the most interesting lectures ever presented to our society and received a unanimous vote of thanks for his efforts.

Adjourned to meet with St. Clair County Medical Society, April 2, 1914.

### WINNEBAGO COUNTY.

The Winnebago County Medical Society assembled at Nelson hotel, Rockford, Ill., March 10, 1914; Dr. E. E. Ochsner in the chair. Members present, 31; visitors, 2.

Dr. Charles Davison of Chicago, surgeon to Cook County and University hospitals, was introduced by the president as the speaker of the evening. Dr. Davison spoke on "The Treatment of Fractures by the Use of Medullary Bone Splints." The doctor based his talk on his own splendid results by this method of treatment. He also showed x-ray plates to illustrate the fracture before and after operating. Dr. Davison considers all other splints than those of bone as foreign and irritating to the tissues.

Dr. Franklin Smith, pathologist at University Hospital, spoke briefly on the "Pathology of Fracture Repair by Bone Plugs." Both doctors stated that surgeons were getting closer and closer to the ideal treatment of difficult fractures. General discussion followed in which Dr. Davison brought out the fact that the technique in the handling of bone splints must be accurate, but need not be so elaborate as in the handling of "Lane's Plates."

It was voted to consider Drs. Davison and Smith honorary members of the society. The doctors were also given a rising vote of thanks.

Society adjourned.

DR. C. M. RANSEEN, Secty.

### Personals

Dr. Harry R. Wormeley and family, Shabbona, have gone to Vienna for two years.

Dr. John W. Seids, Rock Island, fractured his arm while cranking his motor-car, March 4.

Dr. William A. Cochran, Danville, has resigned as chief surgeon of the Soldiers' Home.

Dr. John J. Grant, Freeport, has been appointed local surgeon of the Illinois Pacific System.



Dr. C. H. Eldridge, formerly of St. Elmo, has moved to West Frankfort, Ill., where he will resume the practice of his profession.

Dr. H. W. Hand has removed from Granite City, on account of ill health, and is now developing a cotton farm near Ganoda, Texas.

Dr. William G. Hawkey, Belvidere, who has been seriously ill with septicemia, due to an operation wound, is reported to be improving.

Dr. Eugen Cohn, assistant superintendent of the Peoria State Hospital, has been transferred to a similar position at the Kankakee State Hospital.

Dr. Gustav A. Fütterer will remove from 15 East Washington street to the New Marshall Field building, 25 East Washington street, this month.

Dr. Charles F. Read, assistant superintendent of the Kankakee State Hospital, has been transferred to a similar position in the Chicago State Hospital.

Dr. Elmer L. Crouch has disposed of his interest in the Maplewood Sanitarium, Jacksonville, and will devote himself to the practice of internal medicine.

Dr. Abraham J. Moss, for five years in charge of the Mount Sinai Hospital, New York, has been appointed superintendent of the Maimonides Kosher Hospital, Chicago.

Dr. Louis Ostrom has been elected president, Dr. Carl O. Bernhardt, vice-president, and Dr. John C. Souders, secretary-treasurer, of the medical and surgical staff of St. Anthony's Hospital, Rock Island.

Dr. J. L. R. Wadsworth, the dean of the profession at Collinsville, sustained a fracture of his arm, by falling down the stairs of the new gymnasium which is being built at his expense for the use of the Presbyterian church.

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### News Notes

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—The new Cook County Tuberculosis Hospital, Oak Forest, received 135 patients March 12, transferred from the old institution at Dunning.

—The annual banquet and reunion of the alumnae and former faculty members of the Northwestern University Women's Medical College was held at the Hamilton Club, March 12.

—A superintendent is wanted for the Chicago

Municipal Tuberculosis Sanitarium, which is now nearing completion. It is planned to open the institution before the end of the year 1914. The initial capacity will be 600 beds; ultimate capacity 900 beds.

The sanitarium is situated on a 160-acre tract of land near the city limits. In planning the institution, the utmost effort has been made to incorporate into it all the modern administrative and medical provisions. In its medical arrangements are included a comprehensive laboratory provision, X-ray rooms, and all other modern facilities essential to the thorough study and efficient treatment of tuberculosis cases.

This is an excellent opportunity for a good medical man of right attainments, experience and executive ability. The position will be filled at an early date. Salary \$5,000 a year and quarters and subsistence. Application should be made to the President, Chicago Municipal Tuberculosis Sanitarium, 105 W. Monroe street, Chicago.

—Under the auspices of the Vermilion County Medical Society, an all-day clinic was held at St. Elizabeth's Hospital, March 9, with fifty physicians in attendance. In the evening the sisters of the hospital served a dinner, after which a meeting of the society was held.

—Madison County Medical Society, headed by Dr. James L. R. Wadsworth, honored a pioneer physician of Southern Illinois by finding and restoring his grave and erecting a monument to Dr. Reuben Young Meack, one of the earliest physicians of Collinsville, who died in 1832.

—The epidemics of smallpox and scarlatina among the students in the State University at Champaign have subsided with two deaths from scarlet fever.

—Chicago ambulance surgeons are to have motoreys with side cars for emergency calls this month.

—The ninth meeting of the Robert Koch Society for the Study of Tuberculosis was held at The City Club, Chicago, March 26. Dr. Hollis E. Potter read a paper on "X-ray Diagnosis of Tuberculosis of the Lungs and Bronchial Glands," which was discussed by Drs. James T. Case, F. C. Turley and Adolph Hartung.

Every physician interested in the subject is invited to attend. This meeting is expected to be an especially interesting and instructive one.

Decided interest has been shown in the meetings of the past year.

—President Harry Pratt Judson of the University of Chicago has been granted a leave of absence from March until November for a trip to China. He will be accompanied by a medical expert, and intends to gather data on the study and practice of medicine, and the methods in use for the protection of the public health in China. Dr. Judson is a trustee of the Rockefeller Foundation.

—At a meeting of the Medical Alumni Association of the University of Illinois, resolutions were adopted reaffirming the faith and confidence of the alumni in President Edmund James James, pledging him their unanimous and hearty support, congratulating him on his work, and hoping "that such diligent and painstaking service would be rewarded by a broader influence over the state."

—The tenth meeting of the Robert Koch Society for the Study of Tuberculosis will be held April 9 at the City Club, 315 Plymouth court, at 12:15 p. m. Luncheon 75 cents per plate. Subject, "The Relative Importance of Bovine and Human Sources of Infection in the Production of Tuberculosis." Speaker, M. P. Ravenel, M. D., director Wisconsin State Laboratory of Hygiene, University of Wisconsin.

—Dr. Truman W. Brophy, representing the Senn Club, presented before the board of councilors of the Chicago Medical Society a project to raise \$25,000 for the erection of a monument to Dr. Nicholas Senn in Lincoln Park. The council took favorable action regarding the movement and authorized members of the society to attempt to obtain the subscription required, more than one-half of which is already subscribed.

—Let's have the best man for the presidency, a man who's willing to work, roll up his sleeves, put his shoulder to the wheel and push. Sure. The office of presidency is no insignia of ornamentation, but a real working position. The parent society, its children, the branches and our Monthly need such a man; no backward movement for our Society—Monthly, Bucks County (Pa.) Medical Society, November, 1913.—We have been singularly fortunate in the selection of our presidents and have one in the chair right

now that fits the above description to a dot.—Editor.—*From the Madison County Doctor.*

—The medical officers of the Illinois National Guard extended a testimonial banquet, February 25, to Brig.-Gen. S. C. Stanton, who was retired as surgeon-general of the state under the army and militia reorganization law of January 1. Maj. Daniel W. Rogers acted as toastmaster. Brig.-Gen. F. S. Dickson, the adjutant general, chief of staff, made the principal address and at its conclusion presented the guest of honor with a gold Swiss repeater watch, suitably decorated and engraved, on behalf of the medical officers of the state. Dr. Stanton is the last of a triumvirate of surgeon-generals to be retired with the rank of a general officer. The other two were the late Nicholas Senn and Brig.-Gen. Charles Adams.

—The officers of our State Society, of which you are a member, have decided that all annual dues must be paid by April 1; that all members who have not paid by that time are automatically transferred to the delinquent list, without further action of the society. Your secretary has no choice in the matter; he will be asked for a list of paid-up members and will make his report. It is just as easy for you to attend to this now as at any future time. Then why run the risk of being suspended? In these days of longing for "easy money," you may wake up some morning and find that some disgruntled patient is trying to separate you from some of your hard-earned coin in the form of a suit for malpractice and you will feel much more comfortable to know that the State Medico-Legal Committee is behind you and will make the matter of your defense their particular business. Moral: Send in your check right now.

—*From the Madison County Doctor.*

## Public Health

—Members of the North Shore Branch, Chicago Medical Society, are on the qui vive as the result of mysterious references in their last *Bulletin* to "The Great Night, Eh, Bicn, la nuit grande, Mitglieder, aufmerksam! Die grosse nacht." Was ist los? landsmann?

—The American Society for the Control of Cancer has made arrangements for a special meeting on cancer to be held at the New York



Academy of Medicine, 17 West Forty-third street, on Friday evening, April 10, 1914, at 8:30 p. m. This date has been selected in order that physicians and surgeons attending the Congress of the American Surgical Association may conveniently be present. The public is also invited.

—The March *Madison County Doctor* prints resolutions of thanks to the county press for notices of meetings and articles of public health and sanitation published from time to time. There is little doubt that the various medical societies can secure the co-operation of the local press in this respect and also in the matter of suppressing quack ads if the profession will show its power through organization and united, harmonious action.

—The *Bulletin* of the Montgomery County Medical Society contains an editorial showing that social service can be combined with medical practice in the country as well as in the cities which perhaps have rather monopolized the new departure. The editor is inclined to minimize the difficulties of limiting the abuse of medical charities, which has been a subject of study by committees of the Chicago Medical Society for years.

The *Bulletin* describes the clinic given by Dr. C. W. Barrett, of Chicago, before the society at St. Francis Hospital, Litchfield, Feb. 24 last, and the lecture in the Carnegie Library by the same speaker in the evening, as a treat to the twenty doctors present. Dr. Mather Pfeiffer-berger, of Alton, assisted Dr. Barrett.

—Dr. William J. Mayo, of Rochester, Minnesota, president of the American Surgical Association and Frederick L. Hoffman, LL.D., statistician of the Prudential Insurance Company will discuss the problem of cancer and its control. Dr. Francis Carter Wood, director of the George Crocker Research Laboratory will describe the investigation of cancer which has been undertaken there under the auspices of Columbia University. Dr. J. Collins Warren of Boston, professor emeritus of Harvard University, and president of the Harvard Cancer Commission, will give an account of the establishment of that commission and the research work which it is directing at the Collis P. Huntington Memorial Hospital, and the Harvard Medical School.

—The relation of mortality to overcrowding is

not such a simple problem as might be assumed from cursory examination. A high death rate from tuberculosis might be expected when housing conditions are unfavorable as in the cities having a very large percentage of one room families. But other factors seem to have a much greater influence on the death rate. As noted in an editorial in the *American Journal of Public Health* the cities that have improved the housing conditions within recent years have not secured anything like uniform reductions in the death rates. Thus the rates have decreased in England and Scotland, increased in Ireland and Norway, remained stationary in Paris and shown great decreases in Germany, Berlin and New York.

—The recent innovation of the United States Census Bureau in the matter of making "corrected" death rates will naturally meet with more or less favor in localities that gain or lose in the new estimate as compare with the flat rates based on the gross enumeration of deaths. The theory that the rates should be standardized to equalize the differences in the age distribution of different communities is correct as far as it goes, but it is evident that other factors such as racial elements influence the death rate of a city and should be equalized before the exact sanitary index can be approximated. The very high infant mortality rate of the Slavs in Chicago, for instance, raises the gross rate for the city and would render its rate unfavorable if compared with a city that contained no such element of population. In the same way every other unfavorable element of the population or industries would call for "correction" if an ideally comparable rate were possible. W. R. Batt, in *American Journal of Public Health*, suggests that sanitary officials draw a curve representing the deaths from preventable diseases and compare it with the curve of all the deaths. The "high points" in the former will then indicate where the sanitary control is weak.

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## Marriage

ARTHUR L. BROWNING, M. D., to Miss Mary Bowden, both of Hermon, Ill., at Quincy, Ill., February 11.

JOSEPH INGRAM MERSHON, M. D., Mount Carroll, Ill., to Miss Dorothy Canfield of Wabasha, Minn., in Chicago, February 21.

## Deaths

JOHN GREGG FOLLIN, M. D. College of Physicians and Surgeons, Keokuk, Iowa, 1861; died at his home in Plymouth, Ill., February 5, aged 88.

MARY QUAYLE MATHEWS, M. D. Hering Medical College, Chicago, 1905; died at her home in Chicago, February 25, from kidney disease.

HENRY IRWIN RANKIN, M. D. Western Pennsylvania Medical College, Pittsburgh, 1896; died at the home of his sister in Chicago, recently, aged 45.

BELLE SHOTWELL HOWARD, M. D. Homeopathic Medical College of St. Louis, Mo., 1883; formerly of Peoria, Ill.; died in Hollywood, Cal., February 7.

ISAAC E. BENNETT, M. D. University of Buffalo (N. Y.), 1872; for fourteen years township supervisor; died at his home in Plano, Ill., February 19, aged 66.

EDWARD DANIEL GOTTSCHALK, M. D. St. Louis University, 1906 of Wood River, Ill.; died in St. Joseph's Hospital, Alton, February 26, from pneumonia, aged 34.

THEODORE DWIGHT WILLIAMS, M. D. Hahnemann Medical College, Chicago, 1871; died at his home in Geneva, Ill., February 27, from cerebral hemorrhage, aged 71.

CHARLES TRUE, M. D. Rush Medical College, 1866; a veteran of the Civil War; died at his home in Kankakee, Ill., January 30, from cerebral hemorrhage, aged 70.

EUGENE S. HEAD, M. D. Hospital College of Medicine, Louisville, 1882; formerly physician of Macoupin County, Ill.; died at his home in Carlinville, about February 24, aged 59.

CHARLES C. RANES, M. D. Barnes Medical College, St. Louis, 1910; of Basco, Illinois; died at the home of his brother in Urbana, Ill., February 2, from typhoid fever, aged 32.

FREDERICK SCHEUERMANN, M. D. Chicago Homeopathic Medical College, 1879; a member of the Illinois State Medical Society; died at his home in Chicago, January 17, aged 62.

NATHAN B. GARDNER, M. D. Missouri Medical College, St. Louis, 1889; a fellow of the American Medical Association, and a practitioner

of Laomi, Ill., died at Biloxi, Miss., Feb. 27, aged 54.

JAMES SWAZE WATSON, M. D. University of Michigan, Ann Arbor, 1881; a fellow of the American Medical Association and a well-known practitioner of Aurora, Ill.; died at his home, February 12, from cerebral hemorrhage, aged 62.

ALBERT H. SCHMIDT, M. D. Missouri Medical College, St. Louis, 1879; of Chicago; formerly of Quincy, Ill.; died in the Monroe Street Hospital, Chicago, February 13, from injuries received in a street-car accident a short time before, aged 55.

CHARLES WILLIAM IMWALL, M. D. Dearborn Medical College, Chicago, 1907; College of Physicians and Surgeons, Chicago, 1908; a fellow of the American Medical Association; was found dead in his apartment in Chicago, March 4, from heart disease, aged 33.

HENRY S. HINMAN, M. D. Keokuk Medical College, 1878; of Newton, Ill., secretary of the Board of Pension Commissioners; ex-secretary and ex-president of Jasper County Medical Society; a well known practitioner of Jasper County for 38 years; died March 19, from disease of the heart and lungs, aged 66.

DANIEL GROVE MOORE, M. D. Rush Medical College, 1879; a fellow of the American Medical Association; a veteran of the Civil War; for eight years city physician of Chicago; a member of the attending staff of St. Mary's of Nazareth Hospital; died at his home, February 17, from carcinoma of the throat, aged 70.

## NEW AND NONOFFICIAL REMEDIES

Since publication of new and nonofficial remedies, 1914, the following articles have been accepted for inclusion "New and Nonofficial Remedies":

Farbwerke Hoechst Co.: Amphotropin.

Fairchild Bros. & Foster: Trypsin.

Hynson, Westcott & Co.: Phenolsulphonephthalein, H. W. & Co.; Phenolsulphonephthalein Ampoules, H. W. & Co.

H. K. Mulford Co.: Anti-anthrax serum, Mulford; antistreptococcus serum scarlatino, Mulford; disinfectant krelon, Mulford; salicylos; staphylo-serobacterin; strepto-serobacterin; typho-serobacterin.

Essence of Pepsin, Fairchild: While in my letter dated December 31, 1913, I advised that the council had agreed to the request of Fairchild Bros. & Foster that the product "Essence of Pepsin, Fairchild" be described in N. N. R. under the new name "Pep-



sencia," the council later reconsidered this action. The product is included in N. N. R., 1914, on page 110, under its old title, "Essence of Pepsin, Fairchild."

The following articles have been accepted by the council on pharmacy and chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

**Serobacterins.**—Serobacterins are emulsions of bacteria which have been treated by the application of the corresponding specific immune serum. Bacteria as treated are supposed to contain specific amboceptors so that immediate union with the complement of the patient's serum is said to occur. Hence, their action is supposed to be more rapid than that of ordinary vaccines. They are also said to be free from the negative phase and the general and local reactions produced by ordinary vaccines.

**Staphylo-Serobacterin, Mulford.**—This is a sensitized staphylococcic vaccine. H. K. Mulford Co., Philadelphia, Pa.

**Strepto-Serobacterin, Mulford.**—This is a sensitized streptococcic vaccine. H. K. Mulford Co., Philadelphia, Pa.

**Typho-Serobacterin, Mulford.**—This is a sensitized typhoid vaccine. H. K. Mulford Co., Philadelphia, Pa. (*Jour. A. M. A.*, Feb. 7, 1914, p. 457.)

**Disinfectant Krellos, Mulford.**—A solution of cresols or higher phenol homologues and resin soap. The phenol coefficient, ranging from 5 to 7, is stated on the label. It is an antiseptic, germicide and deodorant. Mulford antiseptic krellos is an almost black liquid, having a cresol-like odor forming a milk-like emulsion with water. The H. K. Mulford Co., Philadelphia, Pa. (*Jour. A. M. A.*, Feb. 14, 1914, p. 537.)

**Anti-Anthrax Serum, Mulford.**—It is prepared by immunizing horses against virulent anthrax bacilli. H. K. Mulford Co., Philadelphia, Pa.

**Antistreptococcic Serum Scarlatinal, Polyvalent, Mulford.**—The serum of horses treated with streptococci taken from scarlet fever patients. The H. K. Mulford Co., Philadelphia, Pa. (*Jour. A. M. A.*, Feb. 14, 1914, p. 537.)

**Corpus Luteum, Capsules.**—Each capsule contains desiccated corpus luteum, Armour 0.3 gm. Armour & Co., Chicago.

**Corpus Luteum Tablets.**—Each tablet contains desiccated corpus luteum, Armour 0.13 gm. Armour & Co., Chicago. (*Jour. A. M. A.*, Feb. 21, 1914, p. 615.)

**Granular Effervescent Salicylos.**—Each 100 gm. contains strontium salicylate 6.54 gm., ammonium salicylate 6.54 gm. with an effervescing base of sodium bicarbonate, citric acid and tartaric acid. H. K. Mulford Co., Philadelphia, Pa. (*Jour. A. M. A.*, Feb. 21, 1914, p. 615.)

**Amphotropin.**—Hexamethylenamin camphorate, a compound of hexamethylenamin and camphoric acid. It combines the action of camphoric acid and hexamethylenamin, but is claimed to be free from the subjective gastric disturbances produced by camphoric

acid and to be effective in smaller doses. It may be given dissolved in water or as amphotropin tablets containing 0.5 gm. Farbwerke Hoechst Co., New York. (*Jour. A. M. A.*, Feb. 28, 1914, p. 697.)

**Radium and Radium Salts.**—Radium is used in medicine in the form of its chloride, bromide, sulphate and carbonate. The therapeutic value of radium salts depends on the emanations which are given off from the radium. Radium emanation consists of alpha-rays, beta-rays and gamma-rays, the latter being similar to x-rays and therapeutically the most useful. The quantity and concentration of radium emanations are expressed in terms of "curie" and mache units. A "curie" is the amount of emanation in equilibrium with 1 gm. of radium and a microcurie is one millionth of a "curie." A microcurie is equivalent to about 2,500 mache units. It has been claimed that radium emanation is of value in all forms of non-suppurative, acute, subacute and chronic arthritis, in chronic muscle and joint rheumatism, in arthritis deformans, acute and chronic gout, neuralgia, sciatica, lumbago and in tabes dorsalis for the relief of lancing pains. Its chief value is in the relief of pain. Surgically marked results are obtained in the removal of epitheliomata, birthmarks and scars. Radium may be administered in baths, by subcutaneous injection in the neighborhood of an involved joint (0.25 to 0.5 microcurie in 1 or 2 cc. distilled water), by local application as compresses (5-10 microcuries), by mouth as a drink cure (in increasing doses of from 1-10 to 10 microcuries three or more times a day), by inhalation, the patient for two hours daily remaining in the emanatorium, which contains 0.0025 to 0.25 (average 0.1) microcurie per liter of air.

**Radium Chloride.**—Radium chloride is supplied in the form of a mixture of radium chloride and barium chloride, and is sold on the basis of its radium content. Radium Chloride—Standard Chemical Co., Radium Chemical, Pittsburg, Pa.

**Radium Sulphate.**—Radium sulphate is supplied in the form of a mixture of radium sulphate and barium sulphate and is sold on the basis of its radium content. Radium Sulphate—Standard Chemical Co., Radium Chemical Co., Pittsburg, Pa. (*Jour. A. M. A.*, Jan. 3, 1914, p. 41.)

**Sodium Acid Phosphate.**—Sodium acid phosphate (Sodii Phosphas Acidi),  $\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$ , is the monosodium dihydrogen salt of orthophosphoric acid, containing not less than 82 per cent. of anhydrous sodium acid phosphate. Sodium acid phosphate is administered to render the urine acid or to increase its acidity. It is used for this purpose to assist the action of hexamethylenamin which is effective only in acid urine. It should be given so that it has left the stomach before the hexamethylenamin is given. Non-proprietary preparations. Sodium Acid Phosphate, M. C. W., The Mallinckrodt Chemical Works, St. Louis, Mo.; Sodium Phosphate, Monobasic, P. W. R.,

The Powers-Weightman-Rosengarten Co. Philadelphia, Pa. (Jour. A. M. A., Jan. 10, 1914, p. 127.)

Slee's Refined and Concentrated Tetanus Antitoxin (Globulin Solution).—For description of Tetanus Antitoxin see N. N. R., 1913, p. 218. Abbott Alkaloidal Co., Chicago.

Slee's Normal Horse Serum.—For description of Normal Horse Serum see N. N. R., 1913, p. 236. Abbott Alkaloidal Co., Chicago (Jour. A. M. A., Jan. 10, 1914, p. 128).

Ampoules Emetine Hydrochloride, P. D. & Co.—Each ampoule contains emetine hydrochloride 0.02 Gm. Parke, Davis & Co., Detroit, Mich. (Jour. A. M. A., Jan. 10, 1914, p. 128).

Phenolsulphonephthalein.—A product differing chemically from phenolphthalein in that a carbonyl group of the latter has been replaced by a sulphone group. Phenolsulphonephthalein is used to determine the functional activity of the kidneys. It is injected intramuscularly or intravenously and its rate of excretion determined colorimetrically. Phenolsulphonephthalein is a red powder which yields a deep red solution with water or alcohol containing an alkali.

Phenolsulphonephthalein, H. W. & Co.—Made by a special process and said to be exceptionally pure. Hynson, Westcott & Co., Baltimore, Md.

Phenolsulphonephthalein Ampoules.—Each contains a solution of 0.006 gm. phenolsulphonephthalein, in the form of the monosodium salt. Hynson, Westcott & Co., Baltimore, Md.

Sterile Ampoules of Mercury Salicylate.—Each contains 0.06 Gm. of mercury salicylate N. N. R., suspended in a vegetable fat. Hynson, Westcott & Co., Baltimore, Md.

Salvarsan-Ehrlich, Suspension in Ampoules.—Each contains 0.1 Gm. of salvarsan, suspended in a vegetable fat. Hynson, Westcott & Co., Baltimore, Md.

Neosalvarsan-Ehrlich, Suspension in Ampoules.—Each contains 0.15 Gm. neosalvarsan suspended in a vegetable fat. Hynson, Westcott & Co., Baltimore, Md. (Jour. A. M. A., Jan. 24, 1914, p. 297 and 298).

Elarson.—Elarson is the strontium salt of chlorarsenobenhenolic acid, containing about 13 per cent. of arsenic and about 6 per cent. of chlorin. It has the action of arsenic, but the arsenic being in lipoid-like combination is said to be better utilized and to exert its therapeutic effects in smaller doses than other organic arsenical preparations. Also, it is said to produce relatively little gastric irritation. It is sold only in the form of Elarson tablets. The Bayer Co., New York (Jour. A. M. A., Jan. 31, 1914, p. 379).

The following articles have been accepted for inclusion with New and Nonofficial Remedies:

Hynson, Westcott & Co.:

Phenolsulphonephthalein, H. W. & Co.

Phenolsulphonephthalein Ampoules, H. W. & Co.

H. K. Mulford Co.:

Anti-Anthrax Serum, Mulford.

Antistreptococcus Serum Scarlatina, Mulford.  
Disinfectant Krelon, Mulford.  
Salicylos.  
Staphylo-Serobacterin.  
Strepto-Serobacterin.  
Typho-Serobacterin.

## THE DETAIL MAN

Who is this fellow slick and jolly,  
That sings his song like parrot polly,  
And knows no more than any molly?  
The Detail Man.

Who gives the doctor bunk and gaff,  
And later up his sleeve will laugh,  
To think he has him on his staff?  
The Detail Man.

Who has the nerve to insult you,  
And swear his dope is something new,  
When it's a fake through and through?  
The Detail Man.

Whose stuff is "strictly ethical" now,  
But in a year who'll show you how  
As a rank fake 'twill make its bow?  
The Detail Man.

Who tells you therapeutic skill  
Is scarcely needed and never will,  
His wondrous dope filling the bill?  
The Detail Man.

Who tells you how to treat your case,  
Just what to give and where the place,  
And later brings you in disgrace?  
The Detail Man.

Who intimates you've been a fool  
For ever having gone to school,  
Proceeds to use you as a tool?  
The Detail Man.

Who works you as a sucker fair,  
To make his firm a millionaire,  
Turning grindstones being your noble share?  
The Detail Man.

Who will from sleep awake some day,  
And to this parrot firmly say,  
"Get out! Skidoo! Be on your way?"  
The Doctor (may be).

—BACILLUS POETICUS,  
Copyright, 1913, by Arthur G. Bosler.



## THE EXILE

JOHN WARREN HARPER

I am down in Arizona,  
 On its cactus-cover'd plains,  
 The white plague on my hollow cheeks,  
 Its fever in my veins.  
 I am down upon the desert,  
 'Tis a God-forsaken land,  
 Where you fight with odds against you,  
 When you've taken your last stand,  
 Where you live out in the open,  
 'Mong the sage-brush and mesquite,  
 With a rattler for a neighbor,  
 Not the friendliest to meet,  
 Where you fling yourself upon a bunk  
 To rest your weary head,  
 And you shake the blooming scorpions  
 From the covers of your bed.

They say this country, way down here  
 Is full of precious gold,  
 Its mountains filled with silver,  
 And with countless wealth untold.  
 But I know another country,  
 And my heart with longing fills,  
 Where the gold is in the sunset  
 Upon its purple hills.  
 Where the silver's in a brooklet,  
 And it's set with emerald, too,  
 As it flashes in the sunlight  
 Of the meadow, stealing through.  
 A country — God's own country,  
 And my own to sacrifice,  
 Some call it fair New England,  
 But I call it — Paradise.  
 'Tis Thanksgiving in New England,  
 'Tis the dear old homeland feast,  
 And like the Moslem way down here,  
 My prayers are toward the East.  
 The neighbors that I knew so well,  
 I seem to see them still,  
 Are winding in procession  
 To the white church on the hill.  
 There's a greeting at the doorway,  
 There's the dear old family pew,  
 And the dearest faces in it,  
 That a lonely man e'er knew,  
 And a sweet face in the choir,  
 And a hand I long to press,  
 Oh, God! to hold her close again,  
 As when she whispered — "Yes."

Oh, I look out o'er the sage brush,  
 As I stretch my yearning hands  
 O'er the long unbroken reaches,  
 Of the desert's burning sands,

To a land where brooks are honest  
 When your lips are parched and dry,  
 Not the canyon's clear deceptive streams  
 Of tasteless alkali.  
 New England has no mountains  
 Full of wealth and mines and drills,  
 But I'd give this whole damn'd country  
 For one sight of its green hills.

I am down in Arizona,  
 And I'm told I've got to stay  
 Till the Angel Gabriel blows his trump  
 Out on the Judgment Day.  
 I've been here three years already,  
 And the white plague's held in check,  
 And my broncho and the pale horse  
 Are going neck by neck.  
 But, Oh God! for Old New England,  
 As the lonely years go by;  
 Let the pale horse beat my broncho,  
 Take me home and — let me die.

Antityphoid vaccination is the practical preventive now available to all men. Its efficiency has been established by scientific experimentation carried on in practically all civilized countries during the last few years. It was begun by Pfeiffer and Kolle in 1896 and at about the same time by Wright.

Official committees appointed by the governments of the United States, England, Germany and France investigated the question of immunization against typhoid by inoculation of the healthy with sterilized typhoid cultures and all unite in recommending it as a rational and practical method of diminishing the frequency and gravity of typhoid fever.

The procedure has been widely used, especially in armies and navies, and the conclusions of the present day are based on the results of more than 100,000 immunizations. It has passed beyond the experimental stage and is now an accepted prophylactic measure of proved efficiency.

The following conclusions are accepted by practically all authorities:

1. Antityphoid vaccination confers a notable immunity against typhoid infection.
2. It reduces by 75 per cent. the case incidence of typhoid in groups of individuals submitted to immunization.
3. It reduces the fatality rate of typhoid about 50 per cent.
4. The disease runs a milder course among the previously immunized who later contract it than it does among those not so treated.

Antityphoid vaccination is a harmless procedure and as it is the only means for rendering a person immune against typhoid-carriers, polluted water, contaminated foodstuffs, etc., its employment is now being very generally recommended by progressive health authorities throughout the world. It is of great value as a protective measure especially to travelers, physicians, nurses, hospital attendants and others brought in contact with cases of the disease or with typhoid-carriers.

## Book Notices

THE CLINICS OF JOHN B. MURPHY, M. D., at Mercy Hospital, Chicago. Volume III, No. 1. Octavo of 190 pages, 91 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Published bi-monthly. Price per year: Paper, \$8.00; cloth, \$12.00. W. B. Saunders Company, Philadelphia, London.

With this number begins a new volume. The subjects discussed in this issue include: Fracture of internal and external malleolus on a line with the tibio-astragaloid articulation, ankylosis of hip, complete bony ankylosis between tibia and patella and femur, tuberculosis of testicle, charcot ankle, gastric ulcer and gastric carcinoma, ununited fracture of the ulna, luxation of the patella and fracture of the internal semilunar cartilage, laminectomy for traumatic compression of the spinal cord, removal of enlarged and dilated stump of gall bladder, following a previous operation with secondary perforation of its wall by three calculi, radical operation for carcinoma of breast.

This is an interesting number. In a note Dr. Murphy promises for future issues a detailed talk on some special topic relating to surgical diagnosis.

MODERN MEDICINE, ITS THEORY AND PRACTICE. In original contributions by American and foreign authors. Edited by Sir William Osler, Bart., M. D., F. R. S., Regius Professor of Medicine in Oxford University, England; Honorary Professor of Medicine in Johns Hopkins University, Baltimore; formerly Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and in McGill University, Montreal; and Thomas McCrae, M. D., Professor of Medicine in the Jefferson Medical College, Philadelphia; Fellow of the Royal College of Physicians, London; formerly Associate Professor of Medicine in Johns Hopkins University, Baltimore. In five octavo volumes of about 1,000 pages each, illustrated. Volume II. Diseases caused by Protozoa and Animal Parasites—Diseases Due to Physical, Chemical and Organic Agents—Diseases of Metabolism and of the Respiratory System. Just ready. Price per volume: Cloth, \$5.00 net; half morocco, \$7.00 net. Lea & Febiger, publishers, Philadelphia and New York, 1914.

The second volume of this truly monumental system of medicine has followed the first very promptly. We commend the editor and publishers on this, and hope the other volumes will appear as promptly.

The subjects treated in Volume II. are:

Protozoan Infections.

Metazoan Infections.

Diseases due to Physical Agents—Intoxicants.

Diseases of Metabolism.

Constitutional Diseases and the Diseases of the Respiratory System.

The treatment of syphilis has undergone such great changes during the last few years that a complete revision of this chapter was necessary, and extreme care is shown in the rewritten chapter.

The chapter on pellagra has been added, as has been shown necessary by the alarming number of cases reported in this country.

Special care and skill are shown in all the cuts presented, and the color plates are remarkably good.

We believe this to be one work which the doctor cannot afford to do without.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF LABORATORY METHODS, FOR STUDENTS, HOSPITAL PHYSICIANS AND PRACTITIONERS. By Charles E. Simon, B. A., M. D., Professor of Clinical Pathology and Experimental Medicine at the College of Physicians and Surgeons; Pathologist to the Union Protestant Infirmary and the Hospital for the Women of Maryland; Clinical Pathologist to the Mercy Hospital of Baltimore, Maryland. Eighth edition, enlarged and thoroughly revised. Illustrated with 185 engravings and 25 plates. Lea & Febiger, Philadelphia and New York, 1914.

Another revision of this very popular work from the press of Lea & Febiger is in the shops. A book good enough to run eight editions needs no commendation.

There is a large amount of new material in this edition—matter which has been made use of during only the last two years—such as the discoveries of Abderhalden.

The technique of the Wasserman reaction has received special attention, and has been thoroughly revised.

The author makes a plea for greater uniformity in the use of various reagents, more particularly of antigen. The technique of the complement fixation test to latent gonococcus infections has received marked attention.

The book will continue to maintain its high place in medical literature, and no one will regret purchasing a copy of Simon's Diagnosis.

A SYNOPSIS OF MEDICAL TREATMENT. By George Cheever Shattuck, M. D., Assistant Physician to the Massachusetts General Hospital. Second edition, revised and enlarged. Boston: W. M. Leonard, Publisher, 1914.

NEW AND NONOFFICIAL REMEDIES, 1914. Containing Descriptions of the Articles Which Have Been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association Prior to Jan. 1, 1914. Chicago. American Medical Association, 535 North Dearborn street, 1914.



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXV

CHICAGO, ILL., MAY, 1914

No. 5

## Original Articles

### SOME FALLACIES IN THE OPEN-AIR TREATMENT OF PULMONARY TUBERCULOSIS.

CLARENCE W. LEIGH, M. D.  
CHICAGO, ILL.

Open-air, or outdoor, treatment means rest and exercise in the open. No particular climate nor altitude is required. The question is not where, but how shall the patient live?

To Brehmer credit must be given for demonstrating the great practical value of intelligent open-air treatment of pulmonary tuberculosis. In 1859 he first directed attention to this method and emphasized the importance of strict attention to details in the regulation of the patient's diet, hours of rest, exercise and general habits. In passing it might be well to remark that for the first fifteen years his teachings were not regarded seriously. Since then, however, each year has seen a gradual increase in the recognition of the great possibilities of this method until it is now practiced in all civilized lands.

That the open-air treatment, if intelligently and carefully adjusted to individual requirements, either at a sanatorium or at home, in any climate, is of estimable benefit, no physician of any considerable experience in handling these cases will deny, but careful and systematic regulation of hours of exposure, rest, exercise and diet is necessary.

It is equally true that lack of attention to details, and the indiscriminate exposure of all patients, in all stages of the disease, at all hours, in all seasons, regardless of temperature or humidity conditions, is not only unscientific and empirical, but may result in extension of existing lesions, aggravation of distressing symptoms, unintentional brutality, and in some instances in the patient's early and untimely end.

Possibly in cases not too far advanced the ideal procedure might be, if the patient could afford it, to prescribe the climate particularly adapted to each individual; one patient might be best treated at a high altitude, another at a low level, another by residing in the desert and still another at the seashore. The climate suitable for one might be unsuitable for each of the others.

However, there is no specific climate, and tuberculosis is a disease not confined to the wealthy classes and even if one climate were better than another we are compelled by economic reasons, if for no other, to treat the majority of our patients where we find them with the best means at hand. If no one climate has a specific curative action it only goes to establish the fact that a patient may be cured in any climate. Atmospheric conditions in the region surrounding Chicago average as well perhaps as elsewhere. This is true at least during a greater part of the year, and although some months may not be so favorable it is only necessary to exercise care and judgment to obtain good results. Wherever one resides, some season of the year, varying in time, is more or less disagreeable in some respects.

While atmospheric, topographic, psychic, sociology and economic conditions are all inseparably associated with the treatment of this disease they are not here directly under consideration, but rather the fallacies and abuses incident to open-air treatment.

Apart from the psychic effect of sunshine and good weather, there is much reason to believe that daylight and sunlight exercise a healing influence on all tuberculous lesions. Bandelier and Roepke state that daylight and sunlight stimulate the cellular tissues, strengthen the organic functions, facilitate the excretion of carbonic acid, stimulate the blood changes, and restore the impaired action of the skin.

Again, the same authors tell us, "More neces-

sary and important is the permanent air bath, in the sense that permeable clothing and coverings should allow both by day and night a constant interchange between the air surrounding the body and the outer air. Without chilling the body this will facilitate the action of the skin and diminish the perspiration."

However, merely to say to a patient, "Remain in the sunshine as much as possible," is not enough, nor is it good advice. It should be explained that too long, or too much exposure to sunshine in hot weather may result seriously; that it is better to remain in the shade or under shelter except when taking sun-baths. If the latter are taken they should not exceed a half-hour, and under all circumstances the head should be protected from the direct rays. Let it also be remembered by the physician that sun-baths may increase the body temperature two or three degrees, cause nervous disturbances, irregular heart action, and are contra-indicated in advanced neurasthenia, in temperature cases and where there is a tendency to hemorrhage.

Again, to tell a person afflicted with pulmonary tuberculosis that he must go for a walk, or must exercise every day, may or may not be advisable. Advice as to exercise must depend on the physical condition of the patient. Febrile cases require both mental and physical rest. Visits from friends, prolonged conversations, or any form of mental excitement should be avoided. On the other hand, non-febrile cases may be permitted to exercise, but the amount and time for taking the same should be definitely regulated by the physician and not left to the discretion of the patient. In any event it should never be carried to the point of fatigue. If walking is the form of exercise prescribed it should be indulged in during the early morning and late afternoon hours in the summer time and late forenoon and early afternoon hours in the winter time. It has been said exercise kills but rest cures many consumptives.

It is also fallacious and absurd to instruct a patient to remain out of doors as much as possible without explaining how to begin this therapeutic measure, or when to modify or vary his conduct as circumstances may require. While the open-air treatment, under proper conditions, increases the appetite, promotes digestion and assimilation, stimulates tissue changes and

strengthens the nervous system, it is neither specific nor self-regulating. The pendulum of thought and practice has swung from one extreme to the other; from closed rooms to open air. The former is always to be condemned; the latter has its limitations.

In this age of hysteria in politics, religion and medicine, perhaps it is not at all strange if exaggerated views and unscientific methods exist. How many robust persons, much less those suffering from pulmonary tuberculosis, can be suddenly subjected, both day and night, to open-air treatment in severe cold or stormy weather without being made ill?

When the outdoor temperature is low, whether the patient occupies a tent, sheltered porch, veranda or window tent, he should be instructed to begin the treatment gradually, and not until he has become acclimatized attempt to remain out both day and night. At the beginning he should go in at sunset; later on, if thought advisable, he may be exposed to the night air. He should be told that when he feels uncomfortable or suffers from the cold it is time to go indoors. He should also be told to dress in a warm room or tent and avoid getting chilled, and to remain indoors on very windy or stormy days and to avoid draughts.

Volumes have been written and countless sermons preached on the evils of bad air and the benefits to be derived from outdoor air. Nevertheless, it is poor hygiene and positively productive of bad results to subject weak, sensitive, febrile patients who do not eat well and who are anemic to prolonged exposures during very cold weather.

After becoming acclimatized, non-febrile patients who eat well and who do not feel uncomfortable or suffer from the cold should be instructed to remain outdoors as much as possible.

The following system is followed by Dr. Carl Spengler of Davos:

1. Non-febrile patients begin their daily outdoor treatment as soon as the lying-out rooms are warmed by the sun or when the temperature outside makes exposure comfortable without the aid of sunshine.

2. If the outside temperature is low, only those who eat well are permitted to remain out for a long time.



3. Patients are not permitted to remain outside if they feel cold and uncomfortable.

4. As a rule, after dinner, they are required to remain out of doors, in bed, or exposed to the sun's rays for two hours. The hemoglobin percentage is also used as a guide to exercise and exposure. If it is low, exercise is restricted, or prohibited entirely, and the time outside limited. Unless this precaution is observed, loss of weight and a condition of inanition resembling progressive phthisis may result. Undoubtedly social and unhygienic conditions are the greatest factors in the spread of tuberculosis and the cause of enormous death rates. However, it is as necessary to individualize in this as in any other treatment. What has just been said must not be construed as a criticism of sane, discriminating methods but as a protest against the abuse of the open-air treatment.

### ACUTE AND CHRONIC MILIARY TUBERCULOSIS.\*

TUBERCULIN, AN EXCELLENT REMEDY IF PROPERLY USED IN SUITABLE CASES. A FEW EXAMPLES OF HOW TUBERCULOSIS MODIFIES AND IS MODIFIED BY OTHER CONDITIONS. A METHOD OF PERCUSSION DEMONSTRATED.

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In discussing tuberculosis this evening I will not attempt to go into the minutest details, and all the possibilities will not be attempted. There is so much ground to be covered that economy of time is a necessity. I will mention those things which are most important, and will also digress slightly and mention some things in regard to general tuberculosis. Anything which I omit may be taken up in the discussion.

*Acute Miliary Tuberculosis* occurs in children as well as in adults. Any one harboring tubercle bacilli may develop this condition. Infection may be primary but is usually due to old foci. The diagnosis is certain *only* if we are able to find the tubercle bacillus, and in making the diagnosis we at the same time pronounce the doom of the patient. In this condition the history is very important. Ascertain if there is any tuberculosis in the family, and if the patient has had any previous

complaint which might be interpreted as a tubercular infection. In seeking the bacillus, examine the urine, sputum and cerebro-spinal fluid. The onset may be acute or gradual. There are cases in which the patient dies in a very short time. In most cases the onset is insidious. The patient has not felt well for some little time. There has been loss of weight, loss of appetite and languid feeling. Irregular temperature may have been present with or without sweats. All the symptoms gradually become more marked. Any of the organs of the body may be involved. If the lungs are especially involved the case may resemble pneumonia, and in those cases where the lungs show much involvement the one thing which attracts our attention is the cyanosis. This is entirely out of proportion to the other lung findings. The pulse is rapid and the breathing hurried. In considering the cyanosis as being due to miliary tuberculosis, we should exclude the possibility of asthma, emphysema, enlarged bronchial glands, or cardiac lesions. Be sure there is no pericardial effusion. Cough is usually present. The fever may be intermittent, remittent, or continuously high. There may be metastatic skin lesions. Those who are skillful enough may examine the choroid for tubercles. See if the spleen is enlarged, and examine the urine for diazo. The diazo is found in most cases where temperature is high. In any case of tuberculosis if diazo is positive and the foam is *yellow*, the prognosis is bad and within four weeks. If a feverless case of tuberculosis shows the diazo, the prognosis is bad but not immediately. If we find in our case pleural or pericardial involvement, these point to tuberculosis. Differential diagnosis deals especially with typhoid. In the latter we find Vidal, slower pulse, and no cyanosis. Obscure septic cases, sinus thrombosis, severe influenza and some other conditions may mislead.

*Chronic Miliary Tuberculosis.* In this condition the patient may live for years. Many of these cases come under the heading of lower lobe tuberculosis. In lower lobe tuberculosis the appetite remains good, and while there may be hemorrhages from time to time, the progress is very slow indeed.

We must differentiate chronic and lower lobe tuberculosis from bronchiectasis. This latter condition is one about which we in general prac-

\*Read before South Chicago Branch of Chicago Medical Society, Dec. 23, 1913.

tice know too little. It is found especially in the lower lobes, back or axilla, although it may locate in apex. In such a case we find a "rale center," which always remains the same. Whenever we choose to listen we find the same thing present. Tubular breathing is heard also, and while we expect to find dullness in association with tubular breathing, in bronchiectasis we often find no dullness, and if we do, this dullness is generally only relative dullness. There are no tubercle bacilli in the sputum. This is the one process in which we especially expect to find the typical "clubbed fingers." A chronic process with much sputum leads to "clubbed fingers." We find them in tuberculosis *if cavities exist*. In bronchiectasis there is much sputum, the patient showing the "mouth full" expectoration, especially in the morning. The sputum may be very offensive.

An x-ray picture is of great diagnostic value in most lung conditions.

*Diagnosis by Means of Tuberculin.* Just a few words to show the relative value of the different kinds of tuberculin in diagnosis.

*Morro Test* shows most cases of active tuberculosis and not the latent forms. It may be positive and the patient at the same time be tuberculosis free. It is negative in some cases of proved tuberculosis.

*Von Pirquet.* A positive Von Pirquet does not mean a great deal, as it shows positive in healed and latent tuberculosis as well as the active types. If it is negative it then has a value. In children under eight years of age it is very valuable, as there is little or no healed tuberculosis in patients under this age, and if the test is positive we know the process is an active one. It is well, however, to employ the above two tests in any doubtful case. They may both be used simultaneously, one not interfering with the other.

The most exact test is the *subcutaneous injection of tuberculin*. It is prepared ready for use by a number of reliable firms. It is suitable only for those cases which have little or no temperature. Observe the pulse rate and the temperature of patient for three days, keeping a record of same. Injection should be made in the morning, so the results can be better watched. A reaction may occur in from six to twelve hours, or later. A reaction occurring even the next day after the

test is made is to be seriously considered, as some reactions are delayed this long. See the patient the next day, and note the findings. See if there is any increased sputum, any increase in the rales, more pain, etc. Ask if there has been headache, feeling of malaise, etc. Redness at site of injection may be due to the glycerin content of the tuberculin but this should last only 24 hours. If the temperature shows a rise of at least one degree, the reaction is positive. If there is doubt as to the reaction, repeat the same dose after about three days. If not satisfied then, give a larger dose on the third injection, using two or two and one-half times the amount of the initial dose. There are cases where it is well to repeat the initial dose several times, as the temperature may show irregularities which are unsatisfactory. Failing to get a certain positive reaction, then use a larger dose. If the test is positive the pulse quickens. After an injection of tuberculin, the lymph glands swell, but this will occur whether they are tubercular or not.

*Tuberculin Treatment.* Tuberculin is not suitable for acute miliary tuberculosis, or any rapid process. No one knows the dose of tuberculin. It is a remedy which is best employed in an institution, as the treatment is a protracted one and the patient should be under our control. The patient should have a thermometer of his own and know how to record temperature and pulse if not being treated in an institution. It requires from six to twelve months to accomplish much. In cases which show little or no fever, old tuberculin may be employed.

In cases showing fever, one of the newer tuberculins, such as B. E. or T. R. is better. B. E. is an excellent preparation, and with it the treatment may be carried out with little or no reaction, if the physician is satisfied to go slowly, beginning with a very minute dose, and considering a rise of even one-tenth degree of temperature as constituting a reaction. The newer tuberculins are not toxic in the same degree that the old tuberculin is. Tuberculin causes a hyperemia of tubercular areas and increased function of the lymph glands (swelling). Large doses may cause decapsulation of diseased areas and acute miliary tuberculosis may be the result. Best results are obtained in cases without temperature, or with



very little. Those cases which have fever should be put to bed and kept there for eight to ten days. As we know, the high fever or whatever fever exists is due especially to mixed infection. The Germans use a preparation called electrargol in order to aid in ridding the system of this mixed infection. It is injected by needle. A chill and increased temperature may follow its use and there then follows a reduction in temperature. Repeat the dose if necessary and as often as necessary. This remedy is a silver colloid. There are other similar preparations used for the same purpose and I mention this one only because I have employed it. Vaccines may give good results in these cases of mixed infection. If all means fail to reduce the temperature, very small doses of one of the newer tuberculins may be tried. If the fever shows a tendency to reduce slightly, continue the tuberculin, but with great caution. If the fever is due to cavities and softening and the case is a suitable one for the employment of nitrogen in the pleural cavity, it is well to use it. This compresses the lung and puts it at rest, allowing healing. Later tuberculin may be employed. There are cases in which the nitrogen cannot be properly employed on account of pleural adhesions preventing collapse of the lung. In such cases, resect the ribs sufficiently to allow the desired collapse. This nitrogen must be repeated at intervals if needed.

In every case treated by tuberculin, use small doses. If a reaction is produced wait until it has receded and then resume treatment, repeating previous dose, or giving even a smaller dose if reaction has been rather severe. Usually about two injections per week are given. If too great a reaction is excited, it is difficult to go ahead with the treatment on account of the hyper-sensibility to tuberculin which results. In such instances wait at least 10 days and then begin again with a much smaller dose than the one last employed. In cases where the glands are involved, the physician may expect marked reactions. The body weight should increase. If not, use arsenic in conjunction with the tuberculin. If the weight remains the same, continue the tuberculin. If the reactions are marked, but the weight in spite of this shows increase, continue the tuberculin. Tolerance to tuberculin is a good sign and leads to a good result. Intolerance is shown by decrease

of weight, insomnia, headache, loss of strength, fever, etc. If intolerance is disregarded and tuberculin employed in the face of it, an acute form of the disease may be precipitated. Hemoptysis is not a contraindication to tuberculin. Wait until all blood has been absent from sputum for three days and then resume gradually. Hemoptysis is an expression of the lung hyperemia caused by tuberculin, and if used cautiously such cases show a complete healing.

If for any ordinary reason one is forced to discontinue tuberculin treatment for a period not exceeding four weeks, the dose may be resumed where left off. Otherwise, begin treatment all over again. If tubercle bacilli persist in the sputum after the course of treatment is ended, wait two or three months and then begin a new course of tuberculin, employing larger doses. Best results are obtained in apex cases. Chronic cases show good results as regards most of the symptoms, but healing is not so good. Tuberculin may be employed by mouth as well as by the needle, and the same principles apply.

Contraindications to tuberculin are nephritis, acute cases with softening, cases associated with diarrhea. Syphilis, pregnancy and heart disease are not considered as contraindications.

Diminished reaction to tuberculin is shown in advanced tuberculosis and rapid tuberculosis. There are several diseases which also are supposed to show diminished reaction, but the main one is measles. Children who have recently had measles do not react to it, and they are, as we would expect, very prone to tuberculosis. In institutions children who have tuberculosis and who fail to react to tuberculin should be separated from the other cases. In other words the tubercular patient who reacts to tuberculin shows that his system is in fighting trim. Children under one year of age react to tuberculin only in about one per cent. of cases where tests have been made. From this time on the percentage increases, and from 11 to 14 years, the reaction occurs in about 95 per cent. Children under one year do not often contract tuberculosis, but if they do it is very fatal. Children under three years of age especially should be kept away from tubercular individuals. A mother if tubercular should not nurse her child.

*Relation of Tuberculosis to Other Conditions.*

**The Heart.** It would be generally supposed that tuberculosis in the presence of cardiac disease would mean a more unfavorable prognosis. This is not the case if the heart lesion be one in which compensation is fair and the general condition of patient is also fair. Such cases as mitral regurgitation, mitral stenosis, etc., cause a passive congestion of lungs. This hinders the rapid development of tuberculosis on the same principle as Bier's hyperemia.

The heart may show a murmur in the presence of tuberculosis without organic changes. This may be due to adhesions with pericardium pulling the heart out of shape and causing a torsion. Such murmurs are always systolic.

**Nephritis.** Nephritis alone causes a high blood pressure. If associated with tuberculosis of upper lobes the pressure is not high; if it be a lower lobe tuberculosis the pressure is high.

**Diabetes.** Many of these cases die of tuberculosis. If the mother shows diabetes, her children are especially prone to tuberculosis.

**Sarcoma.** In certain cases of tuberculosis of glands proven to be such by animal inoculation, the diseased glands afterward undergo sarcomatous degeneration and the patient dies of sarcoma and not of tuberculosis.

**Joints.** A pleural effusion, if it be due to tuberculosis and if it be absorbed by the system, may cause articular swellings, which are very much like gout or acute rheumatism. The smaller joints are especially involved and the inflammation may extend from one joint to another. Such cases are due entirely to the absorption of the effusion.

**Syphilis.** This disease may occur in the presence of an old, almost healed, tuberculosis. In such cases mercury must be used with care, as by its alterative action it may cause absorption of the fibrous tissues surrounding tuberculous areas and the latter disease be provoked.

**Liver.** Fatty infiltration especially likely to occur in protracted cases. Give patients 40 grams milk sugar in the morning. Save urine from that time on for about five hours and test for milk sugar. If over one gram found in the urine passed, it shows fatty infiltration. The liver is unable to change the milk sugar to glycogen, on account of the pathology.

**Phthisio-phobia.** Certain persons who live in

dread of tuberculosis will react to tuberculin when they show absolutely no lesions. Under tuberculin treatment about one-half of them show good results and 50 per cent. remain unchanged.

**Consumption, or Pulmonary Tuberculosis.** This condition is seldom seen under 10 years of age. It is frequent from 16 to 17 years and upward. Consumption is really the tertiary stage of tuberculosis, and is usually seen about 10 years after the primary lesion. Primary stage would be the initial infection of the tissues and neighboring lymph glands. Secondary stage corresponds to the skin tuberculides, phlyctenulae seen in eye, bone lesions, peritonitis, pleurisy, etc. In this stage there are many periods of relapses, the patient being better or worse. The third stage is consumption. Here we have destruction of tissues, etc.

Here follows a demonstration of percussion methods and what we may elicit by having a uniform method of marking off the percussion findings.

*Demonstration of Percussion of Thorax.*

We will now present a method of percussion which may be of value to the physician who wishes to make a quick routine examination. It not only establishes a system of examination, but results in an exact examination of the patient. We mark with a pencil the percussion findings. A good pencil to use is one employed for marking glass or porcelain. The "Schwan" which is an imported pencil is satisfactory. When we finish we have an exact picture before us, so we are not likely to overlook anything. We mark the width of the apices in the rear and in the front, the lower lobe of the lung in the rear at full expiration and full inspiration, upper border of liver, absolute and relative dullness of heart. Traube's space, splenic dullness, and we also mark any area which shows dullness, relative dullness or hyper-resonance. Such an examination cultivates more precision. Any slight deviation from normal puts us on our guard at once. The markings allow exact comparison of the two sides. In this instance I had expected to present a normal subject. I invited the young man you see to come with me tonight, and it was only after examination that I found him not to show normal percussion findings as you will see. We begin at the apex posteriorly. Very often we find trouble posteriorly while anteriorly there is nothing to be



found. The patient sits straight with the head and neck bent slightly forward. A stool or chair without a back is best, in order that the examiner can have easy access to the thorax. Begin over toward the neck internal to the apex and percuss toward the apex. As soon as resonance is heard we have reached the inner border of the apex. Do not make the mark at the inner or the outer border of the finger used as pleximeter, but let the mark correspond to the center of the finger. Do not use a too strong percussion stroke. Now begin percussing external to the apex border, percussing inward, and mark this as soon as resonance is reached. The width of apex is normally about 7 c. m. in the adult. In this subject the two apices are not the same width. The left is much narrower as the markings show, and we are at once suspicious. There is also a little dulness extending downward from the apex. I have auscultated and found suspicious rales at this point, but very few. The apex is narrow and there is not much on auscultation. From this we know the process is old. A wide apex and much on auscultation means a fresh process. In rare cases we may find a wide apex as a result of a cylindrical bronchiectasis. Such cases usually follow a healed tubercular process in this locality. It may sound like a cavity on auscultation, but there are no rales and also no expectoration. Other things which may cause a wide apex are emphysema and chronic asthma, pneumothorax, cavity. A narrow or obliterated apex may result from tuberculosis, intra-thoracic tumor, spinal curvature, very extensive effusion. In every case where the apex shows changes which we believe to be tubercular, examine very carefully the lower border of the lung on the same side, noting carefully if the expansion at lower border is normal.

*Bronchial Glands.* These are found in the inter-scapular region, at about the level of second dorsal vertebrae. There may be dulness at this point if they are enlarged to a sufficient degree. Look especially for their enlargement if there are other glands in the body enlarged from tuberculosis. In children who have a brassy cough and difficult breathing, suspect enlarged bronchial glands. However, if this embarrassment of respiration be congenital, then the thymus.

*Angle of Scapula.* Look for dulness at this point. Draw arm upward and forward to pull the scapula out of the way. Always listen well at this point also.

*Lower Border of Lung Posteriorly.* This is situated approximately the breadth of the hand beneath angle of scapula. Naturally this varies. Some people have longer chests, and some have wider hands. Mark the lowest point of resonance on natural expiration. The patient then takes a deep breath and while the breath is being "held," mark the lowest point of resonance, thus showing the mobility of the lower border of the lung, or the degree of expansion. This should be from 4 to 5 c. m. If the lower border of lung is about normal, but little or no mobility, think of pleural adhesions. If the border is higher than normal, think of pleural effusion, pleural thickening, lower lobe tuberculosis, intra-thoracic tumor, syphilis of lung, sub-phrenic abscess, liver hypertrophy. Some cases of bronchiectasis show quite a little dulness. If lower border is lower than normal, think of chronic asthma and emphysema, pneumothorax, compensatory hypertrophy of the lung at this point. In pneumothorax the deviation from normal is marked and there is absolutely no mobility.

*Apices in Front.* Percuss the width of these and percuss also over clavicles for any difference in resonance.

*Heart Dulness.* Absolute and relative dulness is marked off. Heart dulness increased may mean shrinkage of lung, thus exposing the heart. Pericardial effusion may be the cause of the increase. In pericardial effusion the angle between the upper border of liver and the line of relative heart dulness is no longer a right, but an obtuse angle. Also in pericardial effusion, the area of dulness may extend beyond the apex beat, if the latter can be found. Cardiac hypertrophy or dilatation as we know causes increased area of dulness. The heart dulness decreased may mean chronic asthma, emphysema, compensatory hypertrophy of the lung at this point, pneumothorax, etc. The position of heart may be changed. "Drop Heart" is sometimes found in relaxed tubercular patients. Pneumothorax, pleural effusion, various adhesions to pericardium, etc., may cause heart to change its position.

We notice on this subject that the apex beat is too far to the left, extending almost to the nipple line, and that the heart dulness is increased transversely. In young persons the apex beat may extend further to the left than in the adult, but in this case we would suspect some deviation from the normal on auscultation. On using the stethoscope we find a systolic murmur and accentuated second pulmonic. The boy (18 years) has a mitral regurgitation. Now, if the process in the lung is tubercular, it bears out the statement that certain cardiac lesions deal kindly with consumptives, for the young man, while he has a lung lesion, has never felt sick enough to consult a physician. (This case was afterward proven to be tuberculosis.)

*Upper Liver Border Anteriorly.* Test mobility of lung at this point.

*Spleen.* Situated in mid-axillary line. Use very light percussion or you will fail to find this organ. To determine Traube's space first determine location of apex beat of heart. Draw a line outward from apex, i. e., toward vertebral column. Below this line there should be tympany. Traube's space is bounded above and to the right by the apex of heart and left lobe of liver; below and to the left by the spleen. This space, as we know, should show tympany. This space is obliterated in left side pleural effusions, provided they are not encapsulated. This is a rather important point, for in cases where we are uncertain as to the existence of effusion, if Traube's space is resonant, it is good evidence that there is no effusion. This space could be obliterated also from other causes, such as marked enlargement of spleen, or cardiac or hepatic changes. In chronic asthma, emphysema, pneumothorax, etc., we may be unable to find any splenic dulness because the amount of resonance is too great.

*Areas of Dulness Which Are Not Normal.* This may mean effusion, intrathoracic tumor, spinal curvature, aneurysm, pneumonia, tuberculosis, enlarged heart.

*Areas of Hyper-Resonance.* This may mean cavity, compensatory lung hypertrophy, pneumothorax, emphysema, etc. In very rapid lung processes there may be hyper-resonance over both lungs.

## HYDROCEPHALUS INTERNUS. LUMBAR DRAINAGE BY UTILIZATION OF A MENINGOCELE SAC AS A DRAINAGE TUBE.\*

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MOBILE, ALA.

Anatomical investigation has disclosed that the regulation of cerebro-spinal fluid pressure is dependent upon the venous and lymphatic circulation. This has been established largely through the investigations of Leonard Hill. The communication between the intra-ventricular and para-ventricular spaces lies in five routes, viz.:

1. Through the foramina of Majendie and Luschka in the roof of the fourth ventricle.
2. Into the longitudinal sinus through the intermediation of the Pachionian bodies from the arachnoid space.
3. Through the lymphatics of the cerebral nerves, by the prolongation of the arachnoid upon their roots, especially the optic, olfactory and auditory nerves.
4. Possibly there is a communication with the mucus membrane.
5. Communication with the spinal arachnoid space through the cisterna magna.

It is evident that the internal type of hydrocephalus is therefore amenable to treatment by establishing communication between the internal and external spaces. Obstruction to one or more of these routes will disorganize the cerebro-spinal pressure resulting in dilatation of one or more of the ventricles. This dilatation may take place in any of the ventricles, though more rarely in the fifth ventricle. In one autopsy specimen in an embryo a dilatation of the fifth ventricle alone has been observed, leading to the suggestion that this ventricle may have some hitherto unsuggested internal secretion functioning in the fetus.

1. Hydrocephalus may be congenital or acquired, internal or external. It is a symptom rather than a disease. It results from diseases of the cerebellum, corpora quadrigemina and crura cerebri, interfering with the choroid plexus and thereby causing an obstruction of the foramina of Majendie and Luschka.

2. It frequently results from cerebro-spinal meningitis, syphilis and chronic infections.

\*Read before the Southern Surgical and Gynecological Association at Atlanta, Georgia, Dec. 18, 1913.



3. Arrested brain development. Styles, the first advocate of this latter theory, attributes the failure of the usual operation for hydrocephalus to this theory.

Medicine has ever proven futile in the treatment of this condition and the surgical treatment of hydrocephalus dates its inception with the earliest days of surgery. Until recent years, however, the various procedures have been attempted without a thorough knowledge of the pathologic problems involved.

One might establish the surgical history of hydrocephalus in two periods, the first, including the procedures in which simple arrest of the disease was attempted through bandaging the rapidly developing congenital cases, and the early attempts at external drainage by puncture through the fontanelles. These efforts were never founded on an accurate knowledge of the pathology of the condition and the same may be said for subsequent more surgical procedures, such as sub-temporal or sub-dural drainage.

Sub-temporal and sub-dural drainage have been advocated by such men as Miculicz, Keene, Mayo Robson, Broca, Southerland and Watson and Morton. These surgeons have used various substances to establish drainage tracts, such as strands of catgut, horsehair, Cargyle membrane, various types of tubes and prepared arteries and veins.

Hudson has advocated the use of silver wire drainage tubes attached to a silver wire filigree sub-temporal mat. All of these procedures have been attempted without accurate knowledge of the normal drainage routes and have aimed either at drainage direct from the lateral ventricles through the skin, or underneath the muscles, or to the sub-dural spaces.

Almost without exception the foregoing procedures have resulted in ultimate failure; temporary improvement has occurred in some cases, a case of Broca's, reported as successful, not having been followed sufficiently to warrant any definite permanent conclusion.

Bruce and Styles advocated and, in one case, established drainage through the roof of the fourth ventricle. Temporary improvement ensued and was later followed by death. Von Bramen and Antone and Rehm have advocated callosal puncture for the drainage of the lateral ventricles into the sub-dural spaces apparently with beneficial results in certain congenital cases, in some cases

of epilepsy and in cases associated with meningitis and cerebral tumor. Balance has advocated the ligation of both carotids at intervals of several days in an effort to retard the intra-cerebral pressure. Pays has advocated drainage of the lateral ventricles directly into the longitudinal sinus, where there is a lower pressure, by inserting a portion of the saphenous vein into the sinus, the other portion being inserted into the lateral ventricle, the venous valves preventing back flow from the sinus into the ventricle.

More recently Pussep (*Arch. fur Kinderheilkunde*, 1912 B. 95, No. 3-4) has advocated sub-arachnoid tube drainage through a trephine opening, the tube ending in a dural flap and repeated aspirations through the scalp at the trephine site for the removal of excess of fluid. The tube is later removed.

He has operated on twenty cases, eighteen being children. These were largely cases of chronic hydrocephalus, though cases of acute hydrocephalus and hydrocephalus due to brain tumor were also treated. The immediate results were encouraging and there was but one death possibly attributable to the operation.

The multitude of procedures advocated for drainage from the ventricles into the cerebral arachnoid spaces or into the muscles is sufficient evidence that as yet a satisfactory method has not been evolved. The almost universal failure of these procedures is additional evidence that they are not the routes of choice. The only cerebral procedures that appear to be based on anatomical principles are those of von Bramen (the callosal puncture), that of Pays (drainage into the longitudinal sinus), and that of Pussep (subarachnoid drainage combined with subtemporal aspirations).

The investigations of Cushing appear to offer a more logical and natural route of drainage through the spinal arachnoid spaces into the subperitoneal spaces, in the type where there is no obstruction between the ventricles and the spinal spaces.

Heile has sutured the meninges of the cord to the peritoneum of the large intestine in an effort to establish a communication. Ferguson has inserted a silver wire through the fifth lumbar vertebra from the spinal to the peritoneal cavity. Nicholl has proposed the resection of a spinal transverse process and the insertion of a tube of

decalcified bone or glass from the spinal to the peritoneal cavity. He has established such a communication by suturing a tag of omentum to the spinal meninges.

In a number of cases, where he has disclosed the communication between the cerebral and spinal spaces by simultaneous cerebral and spinal puncture, Cushing has placed a cannula through the fifth lumbar vertebra connecting the subarachnoid space with the peritoneal cavity. This apparently later establishes a direct subperitoneal drainage where the fluid is taken up by the receptaculum chyli. He believes that this method is especially valuable in cases of hydrocephalus complicated by spina bifida in which a radical closure is established in the posterior portion of the operation. He has carried out subperitoneal drainage in twelve cases with a considerable measure of success.

I report the following case as illustrating the feasibility of relieving hydrocephalus internus by spinal drainage in a case where a communication exists between the cerebral and spinal spaces. The end results illustrate the necessity of maintaining the drainage by a stiff walled drainage tube of some material.

**Case Report.** Kathleen K., white, female, infant, age six weeks. Prolonged difficult birth at which time both thighs were fractured. Family history, negative in relation to patient. Past history: The prolonged birth was probably due to a deformity of the child's spinal column. The child was nursed normally and has apparently normal rectal and vesical function.

**Present Illness:** At birth there was a marked kyphosis of the lower thoracic vertebra; above this there was a round fluid tumor mass apparently a meningocele.

A few days after birth this kyphotic area broke down and suppurated for two or three weeks, being healed with great difficulty. About ten days ago a gradual enlargement of the head was apparent, bulging of the anterior fontanelle. This has been becoming gradually more pronounced. Since birth there has been a slight spastic condition of both legs, with a tendency to adduction. There has apparently been no loss of sphincter control of the bladder or rectum. Until three weeks ago the patient complained when irritated about the perineum, indicating sensation present in that area.

**Physical Examination:** The child lies, with head extended, the thighs flexed and adducted, the legs extended and spastic, bilateral pes equinus. The facial expression is normal, except for a mongolian type of right eye. The face begins to show the slight

querulous expression seen in the later stages of hydrocephalus. The mucous membranes are normal, no general glandular enlargement, no evidence of syphilis or tuberculosis, von Pirquet negative.

**Head:** There is a general globular enlargement of the cranial portion of the head, the distended veins, the taut skin and bulging fontanelles of the typical hydrocephalic. The nasio-bregmatic measurement is 23.5 cm. The largest circumference 2 cm. above the external auditory meatus is 40 cm. The transverse diameter measuring between the external auditory meati is 23 cm. The sagittal and longitudinal sutures are ununited. The skin is bulging and pulsates with respiration. The head is drawn well back to the cervical muscles so that the occiput approaches within an inch of the cervical vertebræ.

**Thorax:** There is a marked bulging on the left



Fig. 1. Case Kathleen K. Note Spina Bifida Formation and Presence of Meningocele.

side of the thorax, a flattening on the right, apparently a birth deformity. The cardiac sounds are apparently normal for a child of this age. In the lower dorsal portion of the spine there is a marked kyphosis extending over the sacral and thoracic vertebræ. Here there is a typical spina bifida formation, with absence of several of the vertebral arches. The cord evidently lies immediately under the blue meninges, which are apparently fused with the skin on either side. (See Fig. 1.)

In the mid-thoracic region, about two or three vertebral spaces above the upper border of the spina bifida formation, there is a smooth globular sac projecting from the skin in the mid-line. This sac



is evidently a typical meningocele formation about 6 cm. in diameter and communicating with the subarachnoid space of the cord by a small pedicle. This sac evidently contains clear cerebro-spinal fluid. There is a complete sensory paralysis below the mid-portion of the spina bifida. There is evidence of some motor tracts persisting in the occasional adductor response from tickling the perineum. There is also apparent sphincter control of the anus and bladder. The spastic condition of the legs and thighs, together with a chronic flexion of the right great toe, indicates that a deep lesion, due to pressure on the cord, has been present for some time, that the lesion is an irritative one and that there are some motor fibers remaining.

Diagnosis: Spina bifida, meningocele, hydrocephalus congenitalis interna, thoracic kyphosis, lower sensory paralysis, motor irritative lesion of thoracic portion of the cord, spastic diplegia.



Fig. 2. Case Kathleen K. Note Marked Kyphosis and Non-fusion of Transverse Processes. Note Hydrocephalus.

Operation: In the light of the hopeless future offered by medical treatment and with the hope of arresting the progress of the rapidly developing hydrocephalus, direct drainage of the cerebro-spinal spaces was established by burying the meningocele in the lumbar muscles.

Providence Infirmary, April 2, 1913. After administering a few drops of ether, an area about the spina bifida and meningocele was infiltrated with quinine and urea, the spinal cord itself was also infiltrated with quinine and urea near the meningocele sac.

Upon opening the meningocele sac a small stream of clear cerebro-spinal fluid arose from small bony communication with the canal. There was no evidence of cord tissue in the sac. The edges of the sac were everted and sutured into a lateral deep incision into the lumbar muscles. The skin was sutured to the sac by interrupted suture. The child's condition being excellent, I then dissected the skin from the above cord and its membranes over the spina bifida. The cord was found about one-third its normal diameter, flattened antero-posteriorly in its membranes. Carefully dislocating the cord laterally I was able to chisel a groove one-half inch deep through two of the vertebrae forming the prominent portion of the kyphosis. The cord was laid back in this groove, wrapped in Cargyle membrane and the skin sutured over all.

The patient was very much depressed at the end of the fifty minutes' operation, but soon recovered from the temporary shock.

Post Operative: Within three hours of the time of operation there was a reduction of 3 cm. in the greatest circumference of the head. The patient lived twenty-six days after the operation, suffering marked gastro-intestinal disturbance and eventually dying from inanition. The drainage tract functionated splendidly for the first two weeks. There was marked relief in the retraction of the neck and persistent reduced diameter of the skull. The day following the operation the skin that was formerly tense and bulging over the anterior fontanelle and the sagittal suture became lax and lay loose, sunken into the skull cavity. It appeared that the drainage sac which was drawn rather taut into the lumbar space required a certain degree of intraspinal pressure to force the fluid through the small opening in the sac at the spinal portion. We would note occasionally that the fluid would accumulate in the skull cavity to the point of tension of the skin over the fontanelle and a few hours later this fluid would have drained out. On one occasion this occurred to such an extent that the parietal bones overlapped. On other occasions when the skull was distended with fluid continued pressure over the fontanelle would force the fluid through the sac. These evacuations were always followed by relief of the neck retraction and never associated with convulsions.

There was no leaking about the suture lines. The child began to increase in weight a few days after operation, but on the fourteenth day it was noted that the fluid was not draining. The sac was loosened and the opening to the cord was dilated, the sac sutured back into place. Drainage persisted for twenty-four hours, when the obstruction again returned, apparently due to edema of the sac membranes. From this time until death it was necessary to dilate the opening into the sac every few days. There was apparently an obstruction at the junction of the sac with the cord membranes. One could readily note the appearance of the obstruction

by the restlessness of the child, later convulsive movements of the arms and face muscles and a peculiar whining animal-like cry. The fontanelles would bulge and be tense to the touch. Each time after freeing the opening there would be a relief of the pressure symptoms and for a short period the tissues over the fontanelles would be relaxed and soft and there would be a decrease in the circumference of skull. From the time that the frequent openings in the sac were necessary there was more or less constantly seepage of cerebro-spinal fluid into the dressings.

After the tenth day there was a more or less constant diarrhea and the child gradually lost weight. At no time was there any distinct loss of sphincter control. At no time was there any definite improvement in the reflexes of the lower limbs. Several days before death, which occurred on the twenty-eighth day, the child lost all visual reflexes. The child died after several hours of hypopyrexia, during which time the convulsive movements of the arms were almost constant.

Post Mortem: An autopsy was not permitted, but through a small incision in the posterior fontanelle I was able to determine that the lateral hemispheres had been almost entirely destroyed, only a small thin sac wall representing their remains. Lifting up the meningocele sac, I found almost entire obliteration of the sac at the neck where the sac was given off from the cord membranes. At the point where the sac was inserted into the lumbar muscles there was an oval-shape glistening depression that appeared to be covered with a thin layer of tissue other than the normal musculature. It would have been interesting to have ascertained the circulatory and lymphatic vessels in this new tissue formation.

#### CONCLUSIONS.

Hydrocephalus internus is due to the obstruction of one or more of the natural drainage routes of the cerebral fluid.

A knowledge of the anatomical drainage routes of the cerebral sinuses is essential to the application of surgical drainage in cases of hydrocephalus.

Callosal puncture, drainage by the longitudinal sinus and the combined sub-arachnoid drainage and aspiration method of Pussep seem to be the cerebral routes based on anatomical principles.

Drainage through the spinal spaces appears to offer a better field of experimentation where careful investigation discloses communication with the intra-cerebral spaces. The route is more accessible than the Callosal route, less difficult to perform than the longitudinal sinus procedure and an eminently more surgical procedure than the repeated aspirations of Pussep's method.

Drainage by the spinal route may be either subperitoneal or intramuscular.

A meningocele sac may be utilized as a drainage tube but should be supplemented by an intrasacral tubular drain.

The tender age of the subjects, the usual accompanying destructive lesions of the hemispheres and the often attendant malnutrition will keep the surgical treatment of hydrocephalus internus a treatment for alleviation of symptoms and arrest of progress rather than one of radical cure.

#### THE IMPORTANCE OF URINALYSIS DURING PREGNANCY AND THE SIGNIFICANCE OF THE POSITIVE FINDINGS.

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The analysis of the urine of the pregnant woman at frequent and regular intervals is so essential in distinguishing the safe from the hazardous cases and as an indication for the adoption of prophylactic and curative therapeutics, that occasional emphasis of its necessity may not be inopportune.

A case illustrative of its importance follows:

Mrs. S. A. R. on Nov. 25, 1912, complained of "heart-burn and nausea occurring in the late afternoon and early evening." The condition had existed for ten days and she thought she was getting worse.

Her past history revealed that she was twenty-seven years of age, had always enjoyed excellent health, had been married six years without becoming pregnant, had menstruated regularly and painlessly, but had not had her menses since Oct. 14.

Physical examination showed well-nourished, apparently healthy woman, free from detectable organic lesion. Urine negative. Blood pressure normal.

A provisional diagnosis of pregnancy was made.

Dec. 25 patient complained of "heart-burn and nausea, with frequent attacks of vomiting in which she invariably lost her evening meal." She enjoyed and retained her morning and midday meals. Her nutrition was good, the presumptive evidences of pregnancy were marked and the patient appeared to be a subject of "evening sickness."

Magnesium carbonate controlled the pyrosis, the attacks of nausea and vomiting became less frequent and by Feb. 1, 1913, had ceased.

The urine was examined each month until the sixth of pregnancy; thereafter, every two weeks until delivery.

The patient seemed in good health and presented no unfavorable symptoms until June 27 and 28, when



she complained of "sleeplessness for the last two nights." On June 28 urinary examination showed positive tests (Heller's and heat and acetic acid) for albumin—24 hours later, Esbach read 2.5 gms. to the liter.

Edema of the lower extremities was rapidly increasing and slight headache had developed.

The patient was immediately sent to the hospital, 25 miles distant, and placed under the care of an expert obstetrician.

On arrival, specimen of urine showed 4 gms. of albumin to the liter, also hyaline and granular casts. Blood pressure 185.

She was placed in bed and eliminative treatment prescribed. The amount of albumin decreased slightly, severe headache developed, edema increased, nausea and vomiting occurred and at 8 a. m., July 1, patient had a violent convulsion.

The obstetrician in charge, finding the child in good condition and unengaged, the cervix undilated and rigid, performed Cæsarean section, obtaining a child in excellent condition. The mother made a rapid and uneventful recovery. Four months later urine and blood pressure normal.

The happy outcome in this particular case is the direct result of the admonition given by the detection of the marked albuminuria and the subsequent judgment and skill of the obstetrical surgeon.

The edema of the legs could be readily accounted for by the intrapelvic pressure exerted by the gravid uterus.

The first slight headaches, while arousing suspicion of renal disturbance and indicating an investigation of the urine, in the absence of urinalysis, should not have caused the patient to immediately enter the hospital.

The high blood pressure and toxemia would explain the insomnia.

Had the convulsion occurred at her country home, the outlook for the patient with a child unengaged and with a rigid cervix would have been grave; the possibilities of a live child would have been greatly reduced.

*The Occurrence of Positive Findings.*—The statistics for proteinuria and carbohydraturia during pregnancy show a great diversity of figures. The differences, in a large measure, are due to the delicacy of the methods employed. Those using very sensitive tests report a high percentage, while others, utilizing tests equally reliable clinically, but less delicate, have noted a considerably lower percentage of positive findings.

In several instances, however, this explanation fails to account for the difference.

Schroeder found albuminuria present in 5 per cent of his cases; Ott, in 6 per cent; Fisher, in 25 per cent; Little, in 50 per cent; Sondern, in 62 per cent; and Jaeger, in 70 per cent; with the most delicate tests.

The figures for melituria are equally at variance. Williams observed positive findings in 0.8 per cent of his cases; Hirschfeld would put glycosuria at 10 per cent; Gerard and Ovi found lactosuria alone in 12 per cent of their cases, while Ludwig reports this sugar present in 46 per cent of 82 patients examined.

The meaning of the presence of albumin, carbohydrate, or casts, is of more practical interest than the disagreement of the statistics of various authors.

*Albuminuria.*—Having detected the presence of albumin in the urine of the pregnant woman, it should be determined whether it has antedated or has occurred during gestation. Is it nephrogenous or extrarenal in origin? Its amount. Is it pathologic or physiologic? Is the nitrogenous output normal and is its derivation unchanged?

The anamnesis, the physical examination, and the first urinalysis will tend to exclude the nephritis antedating conception. The presence of albuminuria and cylindruria accompanied by increased pulse tension, exaggerated second aortic sound, and enlargement of the left ventricle, in the early months, point definitely to renal disease beginning before pregnancy.

In the absence of a record of the chronic process, it may be impossible to determine at once whether we are dealing with an acute exacerbation of chronic nephritis or an acute nephritis developing during pregnancy. With this exception, the urinary findings and clinical symptoms of acute renal disease make it readily recognizable.

The presence of albumin accompanied by casts and characteristic renal cells in large numbers demonstrates the lesion in the kidney. We may have albuminuria of prerenal or intrarenal origin and no cylindruria or marked cyturia. In such instances, if the amount of albumin is small, it would be differentiated from that of the urinary tract with difficulty.

Albuminuria, associated with pyuria, bac-

teriuuria, and mucinuria, in the absence of cylindruria, vascular or cardiac disturbances, retinitis, edema, or epigastric pain indicates a post-renal origin, an involvement of the urinary tract. In some of these cases, the albumin disappears spontaneously or clears up under urinary antiseptics; in others the turbid urine persists until after delivery.

The amount of albumin is dependent in a large measure upon its origin, that of the kidney being usually greater than that of the urinary tract. Generally speaking, the gravity of the condition increases with the output of albumin, but this is by no means a fixed rule. The seriousness of the disease is determined by the presence of the clinical symptoms and the nature of the excretory quotient.

Whether an albuminuria is casual or habitual is readily ascertained by examining each specimen of urine separately and on successive days.

The existence of a physiologic albuminuria is a subject that has been productive of much discussion. Wright would consider certain types of albuminuria as no more endangering life than urticaria. On the other hand, Oswald, Hauser, Elliott and others regard such conditions as a sign of transitory injury to the renal filter. In these cases the albumin may be discovered only by accident and the after life of the patient may be unaffected by its presence; in other instances, apparently similar, the albumin found by chance proves to be the first sign of an insidiously developing nephritis.

If this uncertainty exists in considering the functional albuminuria of the non-pregnant, it is apparent that in pregnancy, a condition in which an extra-strain fall upon the kidneys, physiological albuminuria should put the physician on the alert for latent or developing renal disease.

Williams would regard a slight amount of albumin with indifference, provided the urea output was normal. Hall observes that albumin and casts occur in a large per cent of pregnant women and signify the kidney of pregnancy, the most of which return to an apparently normal condition after labor, but the presence of the pregnancy indicates a danger of eclampsia, and eclampsia never develops except in these cases.

On the other hand, Siedeberg considers al-

buminuria a serious indication likely to be a forerunner of some complication during labor. DeLee states that in his experience, "When a woman develops albuminuria, discovered by the ordinary tests, there has always been a pathologic foundation for it."

For diagnostic purposes the albuminurias of pregnancy may be divided into three groups:

1. The toxic,—nephritic or pre-eclamptic, usually accompanied by headache, edema, ocular disturbances, or epigastric pain. In the absence of a definite past history in regard to a nephritis antedating pregnancy, it may be impossible to distinguish between nephritic and pre-eclamptic toxemia. Differentiation is unimportant clinically since the treatment of both types is identical.

2. The infectious or "Albuminuria of Suppuration" of Wallich, characterized by polyuria, turbid or purulent urine, with or without disturbances of micturition, no edema, eye symptoms, cardio-vascular changes or epigastric pain. According to Wallich some of these cases clear up under urinary antiseptics; in the vast majority of such instances no permanent injury to the urinary system ensues.

3. Mechanical,—due to pressure of the gravid uterus and consequent congestion of the kidney or to hyperlordosis described by Jehle and found by Jaeger in 25 per cent of his cases.

It is evident that in a number of cases of albuminuria during pregnancy, it will be impossible to clearly distinguish between the various types. Where the vagina, bladder, ureter and pelvis of the kidney may be excluded as a source of albumin in the urine, its presence should be considered as proof of some abnormality of the kidney as to the health of its epithelium, or its blood pressure, or both. If the amount of albumin is small and the nitrogen elimination normal or not greatly reduced, the condition may be regarded as pathologic rather than of clinical significance, but the physician should ever be on the watch for the earliest symptoms of beginning nephritis or toxemia.

*The Significance of Melituria.*—On the discovery of carbohydraturia in the pregnant woman, it is necessary to consider two forms of sugar, namely, lactose and glucose.

In 1877 Hofmeister definitely established the



presence of lactose in the urine of pregnant women. It is usually observed in the last few weeks of pregnancy. Williams, however, noted it as early as the seventh month. Lactose indicates premature activity of the mammary glands and has no clinical importance, except the possibility of being mistaken for glycosuria and erroneously forming the basis for a somber prognosis.

Lanz, Von Jaksch, Reichenstein, and others, have demonstrated that during pregnancy the power for assimilation of sugar is markedly reduced. Novak, Porges and Strisower would attribute the predisposition to glycosuria of the pregnant woman to a hepatogenous and a nephrogenous cause. They observe in the first instance, that anatomically, the liver shows fatty degeneration, while physiologically, as tested by levulose, it is insufficient. They have also examined the blood of certain cases of glycosuria complicating pregnancy and have failed to record a corresponding hyperglycemia. In such cases, these observers believe they are dealing with kidneys that possess abnormal power of filtration, a condition peculiar to pregnancy.

According to Reichenstein, the ovaries in pregnancy exercise an influence upon the glands regulating carbohydrate metabolism, namely, the liver, pancreas, thyroid, and adrenals and thereby produce glycosuria.

Henkel believes that glycosuria is produced by the influence of the rapidly growing uterus upon the genital apparatus. To support his view he observes that a tumor of the female genital system may cause a diabetes that will disappear after removal of the neoplasm.

Various authors ascribe the condition to some functional change in the thyroid or hypophysis or both, to a nervous predisposition, etc.

Although interesting, it is obvious that these theories do not completely explain the metabolism underlying either transient or alimentary glycosuria.

Alimentary glycosuria is of great significance, since it is essential to differentiate it from the glycosuria of diabetes. We may consider this form present when the urine becomes aglycosuric on removal of the sugar from the diet without reducing the other forms of carbohydrate below the normal intake.

Melituria during pregnancy, in the absence of clinical symptoms, should by no means be interpreted as a sign of diabetes until lactosuria, alimentary, and transient glycosuria have been excluded as far as it is possible to do so, as the chances are much in favor of the disease not being present. It is relatively uncommon in women and when occurring, tends to begin after the climacteric. On the other hand, the diabetic woman is unlikely to become pregnant for the disease frequently decreases or destroys the libido sexualis and so disturbs the structure and function of the internal genitalia as to make conception improbable.

Unfortunately, in a small per cent. of cases conception may be superimposed on diabetes or diabetes may occur during pregnancy.

Therefore, in the absence of characteristic clinical symptoms, a determination of the nature of the sugar in the urine is of the utmost importance.

For practical purposes, lactose may be distinguished from glucose by being non-fermentable. More nearly accurate information may be obtained by isolating the substance in crystalline form.

Lactose and glucose may occur in the same urine and should be suspected when there is a well marked difference between the titration reading, and that of the saccharimeter or between the polarimeter and the saccharimeter.

When glucose is detected the problem is more complicated, since between the mildest glycosuria and the most grave diabetes, all gradations occur. It is necessary to distinguish between alimentary and transient glycosuria and true diabetes.

We may consider alimentary glycosuria to be present when the symptoms are negative, the amount of sugar small, and the urine becomes free from glucose on removal of sugar from the diet. This form of glycosuria has no clinical importance.

Inquiry into the past history of the patient may clarify the diagnosis by revealing glycosuria antedating pregnancy.

In absence of symptoms, it is impossible to determine whether a given case is diabetes or will clear up under treatment. The seriousness of the condition, however, may be relatively determined by the amount of sugar excreted and the period of pregnancy in which it occurs. A large

amount of glucose appearing in the urine early in pregnancy even in the absence of symptoms should be suspicious of diabetes and of grave import. In any event, where glycosuria is present and it does not appear to be alimentary, careful and frequent observation of the patient is imperative.

*Urea and Ammonia.*—On account of nitrogen retention due largely to fetal growth, the amount of urea excreted by the pregnant woman is less than that of the non-pregnant and in the last month of gestation may reach 70.8-76.6 per cent.

Low urea elimination is not regarded with equal significance by all observers. The majority, however, are agreed that marked diminution in the quantity of urea is a serious sign and indicates the institution of prophylactic treatment.

The amount of ammonia-nitrogen excreted during normal pregnancy is from 4-6 per cent. The absolute ammonia output remains approximately the same from day to day, the relative output will vary with the changes in the total nitrogen metabolism.

Murlin and Bailey have found the ammonia nitrogen in normal pregnancies, in which the retention of nitrogen is large and the total nitrogen excreted correspondingly small, may be as high as 12 per cent of the total and unaccompanied by any unfavorable symptoms. They have noticed that immediately following severe catharsis, because of reduced absorption of nitrogenous food and consequently decreased excretion of total nitrogen, the ammonia nitrogen may reach 17 per cent. These authors wittingly ask, "How many of the so-called high ammonias which have been thought sufficiently grave to indicate emptying the uterus have been obtained after catharsis?"

It has further been shown that some supposed instances of high ammonia output have been caused by vesical contamination whereby ammonia arose in the urine as a result of bacterial changes. In such cases irrigation of the bladder with a saturated solution of boric acid produced prompt reduction in the ammonia nitrogen, the food intake and total nitrogen remaining unchanged.

The total nitrogen is dependent on the amount of food ingested, the nitrogen retention, etc. An increased percentage of ammonia nitrogen may,

therefore, be due to the amount of food eaten or the protein stored.

It is obvious that no great emphasis can be placed upon percentage values of urea or ammonia alone in determining a radical course of clinical procedure, but we should be guided by the symptoms, as well as the urinalysis, in deciding upon such action.

*Urinary Sediment.*—The importance of the microscopic examination of the urinary sediment of the pregnant woman can hardly be over-estimated.

Modern methods of centrifugation and the examination of the urine shortly after it is passed greatly increase the likelihood of finding cells and casts. The discovery of occasional hyaline or stippled casts should not be considered with grave apprehension. A small number of epithelia may be regarded as a normal constituent of the urine.

The presence of many casts and renal cells or cells from the deeper layers of the mucosa of the urinary tract point to disease of the kidney or urinary passages more clearly than does albuminuria. In catheterized specimens, hematuria or pyuria is proof of hemorrhage or infection of renal or post-renal origin. When either is associated with cylindruria differentiation is not difficult.

The microscopical findings are, as a whole, more dependable and more readily interpreted than the positive chemical tests.

#### CONCLUSIONS

1. In pregnancy, so-called physiologic albuminuria should be regarded as indicative of renal abnormality and the patient watched accordingly.
2. Recognition and differentiation of the different types of albuminuria are imperative, in order that the members of the toxic group may be discovered early, their gravity appreciated, and proper treatment instituted.
3. The infectious and mechanical types should be carefully observed to detect developing nephritis and to avoid any increased irritation of the renal epithelium.
4. Melituria during pregnancy, in the absence of clinical symptoms, should by no means be interpreted as a sign of diabetes until lactosuria, alimentary and transient glycosuria have been excluded.



5. In the absence of symptoms it may be impossible to determine whether a given ease of glycosuria will or will not clear up under treatment. When glycosuria is present and it does not appear to be alimentary, careful and repeated observation of the patient is absolutely necessary.

6. Very low urea output is a danger signal and the patient should be kept under close supervision.

7. High ammonia may be due to increased total nitrogen eliminated, following nitrogen retention, inanition, catharsis, etc., or it may also result from bacterial contamination of the bladder, and be unaccompanied by any unfavorable symptoms.

8. No great emphasis should be placed on percentage values in determining a radical course of clinical procedure, but we should be guided by the symptoms, as well as, the urinary findings.

9. Analysis of the urine is a means of great value in separating the safe from the hazardous cases, and while it may not tell when to empty the uterus, it should lead to the use of such diet, hygiene, and medication that intervention in many cases would be unnecessary and many children would be born that otherwise would have been doomed.

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#### VERSION AND BREECH PRESENTATIONS.\*

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*Mr. President and Gentlemen of the Society:*  
 The subject which you have asked me to write on, "Version and Breech Presentations," is indeed a popular one in obstetrics—one which would require a great deal of practical experience to add anything new. I will omit histories and theories and will present the practical procedures as they are in use at the Chicago Lying-in Hospital.

*Version.*—Version may be defined as turning the fetus in utero, to bring about a more desirable presentation for delivery.

The operation is known as cephalic version, when the head is made the presenting part, and pelvic, breech or podalic version, when the latter is made to present.

This change in presentation may be accomplished by manipulations through the abdominal wall, and the procedure is spoken of as external version. When a hand is inserted into the uterine cavity to alter presentation, the act is known as internal version.

Changing the fetal polarity by a series of movements with the fingers of one hand in the cervix, and the other hand on the abdominal wall, is termed combined version, bipolar or Braxton Hicks'.

For the sake of completeness, version may be discussed at great length, but version as practiced today invariably implies podalic version. An absolute knowledge of each respective ease is essential before attempting the operation. The cervix must be sufficiently dilated, yet not all liquor amnii must have escaped. How much and how long has the lower uterine segment been subjected to stretching? is a very important question.

In measuring the pelvis it is not alone a question of size of the conjugata vera, but of the size of the fetal head as well.

Are there any pelvic tumors? Is the fetus a

\*Read before the Aux Plaines Branch, Nov. 28.

monstrosity? Is it alive? Is the presenting part engaged? And to what extent? All are important questions, demanding due consideration whenever version is indicated.

*External Cephalic Version.*—This procedure finds its usefulness during the last few weeks of pregnancy and the beginning of labor in transverse and breech presentations. A lax abdominal wall is necessary in order to carry out the operation successfully. The technique is as follows: The patient is placed on her back in a position to relax the abdominal muscles; the bladder and lower bowel should be empty. The abdomen is bared and the position of the fetus mapped out. The fetal poles are then seized with either hand, the head stroked toward the pelvis, and the breech moved gently in the opposite direction. During pregnancy the new position must be maintained with a binder and properly fitting pads; at the beginning of labor the head may be held in position manually until engagement occurs.

*Internal Cephalic Version.*—In the strict sense of the term this operation does not exist and is rarely performed, with one exception, viz., in shoulder presentation. The patient is deeply anesthetized, the shoulder grasped by one hand is pushed up and the other hand assisting through the abdominal wall, until the head descends into the pelvis.

*External Podalic Version.*—The procedure is deserving of name only as employed in deflected breech presentation, when by manipulations of both hands the breech is guided into the superior strait.

*Internal Podalic Version.*—This operation requires introduction of a hand or arm into the uterine cavity, seizing one or both feet of the fetus, and is invariably followed by extraction. It is employed in any emergency on the part of the mother or the fetus requiring hasty delivery; in eclampsia, severe hemorrhage, rupture of the uterus, and premature separation of placenta. Also in transverse and oblique presentations, and in prolapse of the extremities or the cord. The patient must be under the anesthetic, the cervix sufficiently dilated, and the presenting part not deeply engaged.

*Combined or Bipolar Version.*—This method is nearly always done on the breech. It has its

greatest usefulness in placenta previa, and is often named after Braxton Hicks'. The technique is as follows: The patient is placed in the lithotomy position.

The cervix must be dilated artificially if required, sufficiently to admit one or two fingers, the presenting part is pushed upward, while the other hand operates through the abdominal wall on the opposite fetal pole, and gradually brings the breech down towards the external os by pushing and finally raising the head. When rotation is complete the membranes are ruptured, one foot is seized and drawn through the cervix.

*Prognosis.*—The outcome of version depends on the judgment and skill of the operator. The danger to the mother is rupture of the uterus and death. The fetus may likewise die either of premature separation of the placenta or compression of the cord. Fractures, dislocations and separation of epiphyses may occur; nerve injuries and paralysis are not unheard of.

At the Chicago Lying-In Hospital, where an accurate record is kept of every case, in 2431 consecutive labors version was performed 19 times. In each instance it was on the breech. The indications were as follows:

Five transverse presentations.

Five contracted pelves.

Four placentae previae.

Two instances of poor fetal heart tones.

Low forceps were applied three times on the aftercoming head.

Craniotomy was performed three times.

Of these 19 cases five babies succumbed, marking a mortality of 26 per cent.

*Breech or Pelvic Presentations.*—When at the time of labor the pelvis is advancing, it is designated breech presentation.

The sacrum has been chosen as the denominator, and it may, at the beginning of labor, occupy one of the four quadrants of the pelvis or be directed transversely, anterior or posterior; hence, we have six positions, of which S. L. A. is the most frequent.

According as to whether the lower extremities of the child are flexed or extended, we speak of frank or complete breech, and foot or knee presentation.

Breech presentations have been classed as anomalies; they border on the abnormal, indeed they are at times pathologic, whence they are



attended with fetal mortality and risk to the mother.

*Frequency.*—In reviewing 2431 labor records of the Chicago Lying-In Hospital, the breech was found presenting 77 times, including premature births; making a little more than 3 per cent. In order of frequency the positions were as follows: S. L. A.; S. R. A.; S. R. P.; S. L. P.

*Etiology.*—In the series of cases examined breech presentations were found to be associated six times with premature birth; two times with placenta previa; two times with hydramnios, five twins and three macerated fetuses. No mention was made of the displaced pregnant uteri and laxity of the abdominal wall.

*Diagnosis.*—The diagnosis is readily made. By external examination a soft, yielding, irregular mass is found over the inlet, and a firm, round, movable body occupies the fundus.

Vaginal examination finds the pelvis empty, and when labor has begun the characteristic parts of the breech are distinguished.

*Mechanism.*—In a large number of cases the progress in S. L. A. occurs during labor as follows: Engagement takes place in the left oblique, the cervix dilates, the membranes rupture, and descent occurs late and slowly. Lateroflexion of the body begins, the anterior hip reaches the pelvic floor and rotates to the left under the symphysis, performing internal anterior rotation.

Lateroflexion continues and becomes more marked; the anterior hip slips under the pubis, the posterior hip glides over the perineum, and the pelvis and extremities are born, rising from under the pubic arch.

External rotation may now take place, i. e., the anterior hip turns again to the right. The lower extremities fall limp, the body advances, with the arms closely folded against the chest, in the left oblique, until the shoulders are reached, whence the anterior one rotates to the symphysis and slips behind it; the posterior shoulder and arm are then born and the anterior follows: The head descends flexed in the right oblique, the occiput rotates to the symphysis, the chin, mouth, nose and the forehead appear in succession over the perineum, and the head is born.

*Variations in Mechanism.*—The breech may be

delayed at the pelvic inlet. Delay or arrest of the breech may occur in the pelvis. The arms may be displaced and contraction of the cervix may occur. Flexion may be undone and the head may become impacted, or it may rotate into the hollow of the sacrum.

*Prognosis.*—The mother runs always risks of deep tears; post-partum hemorrhage and infection are not infrequent. The fetal mortality is high, death being caused by asphyxia, and injuries are frequent. Of the 77 cases examined, 12 babies died before or during delivery, a mortality of 15 per cent. The child had to be extracted 12 times. Forceps were used twice on the after-coming head. There was one fractured humerus. Episiotomy was performed eight times.

*Treatment.*—In view of the doubtful outcome, breech presentations should be corrected before labor. Every breech during labor requires watchful expectancy, being ready for all emergencies of operative delivery. The patient is best delivered on the table. As the breech emerges, no traction is made; the extremities are straightened and wrapped in a warm towel. When the baby is large or the perineum rigid, deep episiotomy is performed. When the navel appears, the time becomes limited according as to conditions present. The fundus is followed down with the hollow of the hand. If the shoulders do not deliver readily, the posterior shoulder and arm are aided, then the anterior.

After the shoulders are born the body is raised to deliver the head in the most natural manner. Every method for resuscitation should be in readiness.

*Treatment of Complications.*—When extraction becomes necessary in serious conditions of the mother or child, complete dilatation and a normal pelvis are requisite.

The patient is placed on the table and anesthetized; the feet are seized and brought into the vagina if not already down.

In frank breech the fingers are hooked in the groin. Traction is then made in the direction of the pelvic outlet, and as the extremities are born they are wrapped in a warm towel. Both hands seize either limb higher up and continue traction until the breech and body emerge. The shoulders are delivered as in normal mechanism, freeing first the posterior, then the anterior

monstrosity? Is it alive? Is the presenting part engaged? And to what extent? All are important questions, demanding due consideration whenever version is indicated.

*External Cephalic Version.*—This procedure finds its usefulness during the last few weeks of pregnancy and the beginning of labor in transverse and breech presentations. A lax abdominal wall is necessary in order to carry out the operation successfully. The technique is as follows: The patient is placed on her back in a position to relax the abdominal muscles; the bladder and lower bowel should be empty. The abdomen is bared and the position of the fetus mapped out. The fetal poles are then seized with either hand, the head stroked toward the pelvis, and the breech moved gently in the opposite direction. During pregnancy the new position must be maintained with a binder and properly fitting pads; at the beginning of labor the head may be held in position manually until engagement occurs.

*Internal Cephalic Version.*—In the strict sense of the term this operation does not exist and is rarely performed, with one exception, viz., in shoulder presentation. The patient is deeply anesthetized, the shoulder grasped by one hand is pushed up and the other hand assisting through the abdominal wall, until the head descends into the pelvis.

*External Podalic Version.*—The procedure is deserving of name only as employed in deflected breech presentation, when by manipulations of both hands the breech is guided into the superior strait.

*Internal Podalic Version.*—This operation requires introduction of a hand or arm into the uterine cavity, seizing one or both feet of the fetus, and is invariably followed by extraction. It is employed in any emergency on the part of the mother or the fetus requiring hasty delivery; in eclampsia, severe hemorrhage, rupture of the uterus, and premature separation of placenta. Also in transverse and oblique presentations, and in prolapse of the extremities or the cord. The patient must be under the anesthetic, the cervix sufficiently dilated, and the presenting part not deeply engaged.

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shoulder. It is very important to exert pressure through the fundus all this time.

The head is delivered according to Mauriceau's or Smellei-Veit method. In making traction it is important to maintain flexion of the head and back anteriorly.

When the occiput is posterior and rotation cannot be effected, two fingers of one hand grasp the shoulders, while the other hand draws the feet over the abdomen of the mother. There is great risk of a deep tear.

When the head is impacted in the bony pelvis, forceps may be employed.

The cervix and contraction ring may retract firmly on the neck; immediate delivery is indicated. The patient is deeply anesthetized, traction is made, assisted by suprapubic pressure.

When the arms are extended over the head, two fingers are introduced beneath the posterior shoulder, passed along the humerus to the elbow, hooked over the arm and used as a splint in bringing the latter down along the thorax. The body is then seized and rotated so as to bring the anterior shoulder posteriorly, and the arm delivered in the same manner.

If the breech or the head are delayed at the pelvic inlet Kristeller's manipulation should be employed.

117 North Parkside Avenue.

## DISORDERS OF THE CARDIAC MECHANISM; THEIR MODERN INTERPRETATION.\*

JOSEPH SHERLAW, M.D.  
CHICAGO.

It is well known that during recent years some very important work has been done in the investigation of the mechanism of the heart-beat and in the interpretation of certain disorders of this mechanism. Much of our newly-acquired information concerning this subject has been gathered through the use of precise graphic methods. The sphygmograph, the polygraph, the micrograph and the electrocardiograph are the instruments that have been used in the development of much of our modern cardiac terminology.

Speaking of the service those instruments have rendered to medicine, Dr. Lewis says: "They

have placed the entire question of irregular or disordered mechanism of the human heart upon a rational basis, so giving to the physician the confidence of real knowledge; they have profoundly influenced and have added exactitude to prognosis; they have potentially abolished the promiscuous exhibition of cardiac poisons, and have clearly shown the lines which their administration should follow."

The new clinical observations, he further says, have stimulated and directed a host of laboratory researches, anatomical, physiological, pathological and pharmacological of the most valuable nature.

The records in themselves constitute the most exact signs of cardiac affections which we possess. The little strips of paper imprinted by the disease itself form permanent and unquestionable testimony of events that have occurred in the cardiac revolution, and may be placed in the balance, as Lewis says, without disquietude, while experiences of a more subjective kind fill the opposing scale.

In the arrhythmias, for example, the tracings of this little instrument have led to an entirely new classification. It would be literally correct to say that they had made such a classification possible. There certainly was no such classification when most of you and I first studied physical diagnosis. It is quite interesting in this connection to look up the older works on practice and physical diagnosis, and, indeed, some of the newer ones, which say very little about the subject, notwithstanding the fact that Mackenzie declares that the advance that has been made in the knowledge of this subject, i. e., the arrhythmias, within recent years, positively constitutes a revolution. By the combined efforts of clinicians and experimental physiologists, he goes on to say, what was recently a complete mystery is now one of the best understood matters in the whole science of medicine.

Until the publication in 1902 of Mackenzie's celebrated work on the pulse, the almost inestimable value of the sphygmograph in the interpretation of the various cardiac irregularities was not appreciated. This really remarkable book, however, the product, by the way, of a hard-worked general practitioner, who tells us that rarely during its preparation could he devote more than one consecutive hour to the work, gave

\*Read before the Englewood Branch, Chicago Medical Society, Nov. 4, 1913.



a tremendous impetus to the study of the cardiac mechanism in all its bearings.

And, as it is chiefly in the interpretation of the abnormal conditions of the mechanism of the human heart, as seen in the various arrhythmias, that the value of the sphygmograph has been demonstrated, I shall endeavor to give a brief review of one or two of the more interesting of them, but before doing so I will call your attention for a moment to a few of the more important points in the development and innervation of the organ which should be emphasized because of their important bearing upon the clinical investigation of heart disease. Let me, then, call to your recollection the following facts in embryology:

In early embryonic life the heart is shaped like a tube, at the posterior end of which the large veins from the body unite to form the so-called sinus venosus.

Later the tube assumes a "U" shape and pouches develop therefrom to become the auricles and ventricles of the organ, the tube still persisting and connecting the various chambers.

In the human heart at a later stage the sinus venosus loses its distinctive features and becomes fused more or less intimately with the tissues of the auricle around the mouths of the great veins and a strip of tissue between the orifices of these vessels and the coronary sinus.

By this time the original cardiac tube has also disappeared as such, but persists in the form of a band of peculiar fibers connecting auricles and ventricles, and now known as the auriculo-ventricular band, Gaskell's bridge or His' bundle.

The most useful description of this bundle was given by Tawara in 1906, when he published his researches into its origin, structure and distribution. He pointed out that it rose from a node of tissue—Tawara's node—in the right auricular wall, near the opening of the coronary sinus, and was distributed by a band of tissue on either side of the ventricular septum to the papillary muscles by numerous fine branches—long ago described by Purkinje. This band of tissue, then, represents the original cardiac tube, and a small node of tissue, the sino-auricular node at the mouth of the superior vena cava, and lately discovered by Keith and Flack, is believed to represent a part at least of the sinus venosus, and to be the point at which normal auricular contractions

originate, and hence is known as the heart's pacemaker. In brief, then, cardiac stimulus production and conduction seem at present to be the peculiar function of the remains of the primary cardiac tube.

In the normally-acting adult heart this pacemaker sends forth waves of contraction that average seventy-two per minute, and the contractions being evenly spaced, the systoles follow each other in a regular order or rhythm. If the His bundle be compressed, however, conduction is interfered with, while if it be divided the harmonious contraction of auricle and ventricle is destroyed the auricle continuing to contract at the normal rate, but the ventricle at a rate quite independent of the auricle. And, as we shall see later on, conditions exactly analogous are met with as the result of disease in man, particularly in the later stages of rheumatic heart affections, syphilis and cardiosclerosis.

Of the nerve supply of the heart it will suffice for the present to say that though the independent functions of the muscle fibres enable the heart to execute its movements independent of any nerve intervention, yet the nerves exercise a powerful controlling influence over these movements.

It would be idle to attempt a discussion of the relative merits of the neurogenic as opposed to the myogenic theory of cardiac stimulus production, because we possess little or no real knowledge of the function of the so-called intrinsic cardiac ganglia or of the sympathetic nerve trunks.

Of the function of the vagus in its relation to the heart, however, we have a limited but real knowledge. We know, for example, that if one vagus be divided, little effect may be noticeable. If both vagi be cut, however, the result is a greatly increased frequency in the heart's action. If the vagi be stimulated, the results are somewhat varied, depending to some extent upon the strength of the stimulation, but may be said in a general way to depress the function of the muscle fibres, while if the stimulation be strong enough, the conductivity of the fibres joining auricles and ventricles is so depressed that ventricular contraction may fail to follow auricular contraction and skipped beats will result.

Mackenzie points out that a principle of great importance in diagnosis and treatment underlies this seemingly uncertain action of the vagus, and

that is, that if there be depression of one function of the heart—whether its conductivity, contractility or what not—vagus stimulation is liable to seize upon that function and increase the depression. I had quite recently under my care a case that illustrated this principle rather forcibly, but I will refer to it later in connection with heart-block.

In 1882 Gaskell demonstrated that the heart muscle possessed five fundamental, physiologic properties, and it has now been pretty generally accepted that the various arrhythmias may be satisfactorily classified in reference to one or other of these attributes.

These five cardiac functions, as is well known, are:

1. Rhythmical stimulus production, i. e., the power to produce, rhythmically, a stimulus which can excite the heart to contraction.
2. Excitability or irritability, the faculty of receiving and responding to a stimulus.
3. Conductivity, the power to convey a stimulus from fibre to fibre.
4. Contractility, the power to respond to a stimulus for contraction.
5. Tonicity, the power to maintain cardiac tone, shown in the fibres not relaxing to their full length during diastole.

To these five functions Dr. Ellis Kirk Kerr of this city recently called attention to what some believe to be another distinct property of heart muscle, viz., that when the heart contracts, it does so to its fullest extent and immediately thereafter enters upon a refractory stage, during which it will respond to no stimulus, however strong. This so-called refractory stage, however, has been regarded by others as an expression of the temporary exhaustion of excitability.

Time will not permit consideration of each of the arrhythmias. I will, therefore, simply name them and proceed to a discussion of one or two of the more interesting of them.

1. Sinus arrhythmia.
2. Heart-block.
3. Premature contraction (extra systole).
4. Auricular fibrillation (nodal rhythm, *pulsus irregularis perpetuus*).
5. Alternation of the pulse.
6. Paroxysmal tachycardia.

*Sinus Irregularity:* This form of irregularity

is characterized by a waxing and waning in the rate of the heart-beat, the contractions being more frequent during inspiration and less frequent during expiration. It has also been called pneumogastric irregularity because of the belief that it is due to vagal stimulation of the sino-auricular node or pacemaker, the vagus in turn being acted upon by the respiration.

While these vagal irregularities usually show a respiratory relation, there are times when no such relation can be made out, especially when the heart is under the influence of digitalis and the irregularity due in all probability to alterations in vagal tone from that cause.

A sinus irregularity can usually be recognized without much difficulty, the sphygmograph being employed chiefly to give permanent expression to the condition. The gradual waxing and waning of rate synchronous with the respiratory curve is always suspicious, if not conclusive.

It is of very frequent occurrence in childhood, and hence has been spoken of as the "youthful type" of irregularity, and where absent may readily in many cases be elicited by requiring the child to breathe deeply.

This form of irregularity in children has been stated to be symptomatic of tubercular meningitis, to which it has no pathologic relation whatever.

While sinus irregularity is most frequently met with in children, it is by no means confined to the first decade of life, but may not infrequently be encountered in adults. I quite recently examined a robust, healthy man, aged twenty-eight, with a very well-marked case of sinus irregularity, and within a few days have seen a young man, aged seventeen, with a pronounced case of it, especially on deep breathing, and who was advised by his physician to refrain from playing football last season on account of it.

Friberger recently (*Jour. A. M. A.*, 1912, lviii, 828) undertook to examine the hearts of 321 unselected children between the ages of five and fourteen, taking graphic records of each child. Only about 37 per cent. had regular pulses. Of the remainder about 12 per cent. had great irregularity and about 50 per cent. a moderate amount. The variety was this so-called "youthful type" and was about equally common in both sexes. The etiology was not clearly apparent, but Friberger noted that children suffering from tu-



bereulosis frequently gave a tracing of sinus irregularity.

The importance of this condition lies chiefly in its possible confusion with other forms of irregularity.

It calls for no therapeutic measures. Indeed, Mackenzie states that he has not yet found it in any case of serious affection of the heart muscle, and is of the opinion that the vagus only exercises this control when the heart muscle is in a healthy condition.

This neuro-genic irregularity, as Hirschfelder calls it, is of extra-cardial origin, then, and due to reflex interference with the rhythmicity of the organ by more or less rhythmic reflex stimuli passing through the vagi and accelerators.

*Heart-block* is a disorder of the cardiac mechanism characterized clinically by so-called dropped beats or intermissions, or by a delay in or absence of response of the ventricle to auricular impulses.

As we have already seen, the stimulus for cardiac contraction has its origin, under normal circumstances, in the sino-auricular node, whence it spreads rapidly over both auricles and is transmitted from auricles to ventricles by the neuromuscular band already described as the His or auriculo-ventricular bundle. If this bundle be damaged from any cause, the transmission of the stimulus from auricle to ventricle is interfered with, so that there may occur a delay in the contraction of the ventricle, or if the injury to the bundle be greater, the stimulus from auricle to ventricle may fail to get through and dropped beats or ventricular intermissions will result. This skipping of beats may occur only at rare intervals, or the ventricle may be found to respond to only one-half of the auricular impulses, when we have what is known as a two-to-one heart-block; 3:1 and 4:1 ratios, in which each third and fourth auricular impulse alone yields a ventricular response, are sometimes met with, but not very frequently. All grades of intermission, then, from the occasional skip up to the point where only an occasional auricular impulse finds a ventricular response are included under the terms "partial heart-block." In the complete variety of heart-block, that is, the final grade, no auricular impulse whatever gets through to the ventricle on account of the destruction or disorganization of the bundle of His. When this is

the case, the ventricle having completely lost the controlling influence of the auricle beats in response to a slow and regular series of impulses generated within itself, i. e., within the uninjured remains of the ventricular distribution of the auriculo-ventricular bundle. In complete heart-block or dissociation two distinct rhythms are, therefore, maintained—the auricular rhythm and the ventricular rhythm—the auricle continuing to contract about 72 times per minute, while the ventricle beats about 30 times per minute, the systoles of auricle and ventricle falling with varying time-relations to each other.

Apart from the use of the sphygmograph, the correct clinical interpretation of these various grades of heart-block is surrounded by a great deal of difficulty, as the ordinary clinical evidence is limited to the fact that the ventricular rate is slow, while the pulsation of the veins in the neck seems to indicate that the auricle is contracting with normal frequency. It is true that if the ventricular rate be below 30 per minute, one may be reasonably sure that complete heart-block exists, but if the rate be anywhere between 36 and 72, the difficulty of correct interpretation, apart from graphic records, is, to say the least, very great, because this grade of slowing may be due to other causes than heart-block.

In cases where there is a mere delay in the response of the ventricle to auricular impulses which would, of course, be occasioned by a loss of conductivity in the A. V. bundle, the evidence apart from a tracing is not satisfactory. We all see cases of this kind not infrequently, where upon putting our ear to the chest we can recognize that ventricular contraction is delayed beyond the point of its normal time relation to the complete cardiac cycle. In other words, the first sound of the heart lags in the cardiac revolution. This naturally gives rise to some measure of irregularity which, by the way, is very far from being covered by the time-honored diagnosis of "functional trouble" or even by the more modern "cardiac neurosis." As a matter of fact, this halting rhythm is not infrequently the initial expression of a widespread involvement of the myocardium, and with a combined jugular and carotid tracing before us, a diagnosis becomes comparatively a simple matter. There is one condition, however, that will assist the unaided ear or stethoscope, in the absence of a tracing, in

making a diagnosis in a case of beginning heart-block—that is, in cases where mitral stenosis is present. In these cases an appreciable interval can be recognized between the end of the presystolic thrill and the following ventricular contraction, which affords at least some evidence of delay in the transmission of the stimulus for contraction between auricle and ventricle, because, usually, as you know, the presystolic thrill in mitral stenosis ends in ventricular contraction. Cabot gravely questions whether this interval can be recognized, but whether or not, if a tracing of the jugular pulse be taken simultaneously with that of the radial pulse or apex beat, very little difficulty, as a rule, will be experienced in determining the true character of the disorder. On the jugular tracing the contraction of the auricle is shown by a distinct wave which, under normal conditions, is followed at an interval of about one-fifth of a second by the upstroke on the carotid tracing and a very little later by a similar wave on the radial tracing. Indeed, on the jugular tracing alone both an “A” wave and a “C” wave occur—the “A” wave due to auricular contraction and the “C” wave to carotid expansion—the latter vessel being in close relation to the jugular at this point. This A-C interval, as it is called, that is, the interval between the beginning of auricular and the beginning of ventricular contraction is of very great importance in estimating the conductivity of the His bundle, over which the stimulus for contraction must pass from auricle to ventricle, and it is only by graphic methods that the exact time-relations of the various movements of the organ can be satisfactorily determined. It would, therefore, seem imperative, even from this utterly inadequate and incomplete presentation, to conclude that the polygraph has a very important function to perform in determining the true condition of the cardiac mechanism in all cases simulating heart-block.

Reference has already been made to rheumatism and syphilis as causative agents in the production of heart-block, though it is now known to follow other of the acute infections, such as diphtheria, influenza, pneumonia and typhoid. But, whatever be its origin, heart-block, especially the higher grades, is now generally recognized as an expression of a more or less widespread involvement of the heart muscle, and not

confined to the tissues immediately surrounding the neuro-muscular elements concerned with the production and conduction of impulses for contraction. It may not be without interest to note in passing that the lower grades of heart-block may very readily be converted, temporarily at least, into the higher grades by the administration of certain drugs, especially those of the digitalis group. This point may be illustrated by referring again to the case I spoke of earlier in the evening in connection with Dr. Mackenzie's observation, that if there be depression of one function of the heart, vagus stimulation is liable to seize upon that function and increase the depression. A woman, aged 68 years, with an intermittent heart (1 in every 7 or 8 beats) comes down with pneumonia. Reasonable doses of digitalis are administered three times daily, and in 48 hours, but especially in 72 hours, her low grade heart-block is converted into a regular 2:1 heart-block, which improved only after the temporary, but complete withdrawal of the drug. The function of conductivity in this woman's heart was already depressed, as is shown by the occasional intermission. The vagi, stimulated by the digitalis, seized upon this function and increased the depression, or in other words, raised the grade of the heart-block. True, this condition might have been to some extent counteracted by the administration of atropin, but it was not used.

The special symptomatology of heart-block may be summarized in a few words, as, apart from the characteristic irregularity and slow ventricular rhythm with its associated Adams-Stokes' syndrome there are no particular characteristics. (Adams-Stokes' syndrome, by the way, is not a synonym of heart-block. The latter condition is not infrequently present without any syncopal symptoms manifesting themselves. It is, naturally, in the higher grades of heart-block, and especially in dissociation of auricle and ventricle, with its associated slow pulse (25 or 30 per minute), that the cerebral circulation is so poorly supplied as to precipitate the epileptiform convulsions known as the Adams-Stokes' syndrome.)

But to refer again to the symptomatology; the general field of cardiac response is distinctly limited, and the manner of limitation is varied, in some it is a sense of general weakness, in others, very slight exertion induces attacks of



dyspnea, and so on. It must always be remembered, however, that in established heart-block, not only the neuro-muscular tissue concerned with the production and conduction of impulses is involved, but, *pari passu* with its disorganization the invasion of the myocardium seems to proceed.

From a prognostic point of view heart-block cannot of itself be said to be fatal. Though, at the same time, it is true that the most of those who suffer or have suffered from it die with the usual symptoms of general heart failure. The important question is: how does heart-block affect the prognosis in these cases. Lewis says, "my experience of such cases is that they are serious; in fact, most of those I have seen are dead, though they did not die of heart-block." It may be taken for granted, however, that the presence of heart-block, especially of the higher grades, adds greatly to the gravity of any case of valvular or myocardial involvement, and one's prognosis must be guarded.

The milder forms of heart-block require practically no treatment. The associated cardiac conditions, however, require attention quite frequently and digitalis may be indicated for the relief of dilation, dropsy or other symptoms. When this is the case the aggravation of the heart-block from the administration of digitalis must not be allowed to interfere with its being given, though it will, of course, suggest the advisability of getting along with as moderate doses as possible, and probably withdrawing it altogether for a day or two each week. In rheumatic patients the salicylates are, of course, in order, together with attention to the hygiene of the throat and mouth; while a history or a suspicion of syphilis calls for appropriate treatment. Mercury and the iodides are credited with having cured a number of cases of advanced heart-block. Those subject to the Adams-Stokes' syndrome should be warned of the danger of injury from falling in fits. In many cases these fits occur in groups and it is wise to have the patient lie up till such attacks cease. Digitalin, strophanthin, strychnin, oxygen, etc., have been used but with little if any result. Rest is, of course, all important in this as in all other varieties of heart disease.

*Auricular Fibrillation.* As we have already seen, the auricle is the seat of normal impulse

production. In auricular fibrillation, however, these impulses instead of being given off at the sino-auricular node at an average rate of 72 per minute, arise at multiple, independent auricular foci in a most rapid and disorderly fashion. The usual co-ordinate contraction of the auricle is, therefore, lost and as a consequence the ventricle, in obedience to the rapid, irregular shower of impulses it receives, beats in a hurried and most disorderly manner. Not all the impulses generated in the turbulent upper chamber of the heart find responses in ventricular contraction or ventricular fibrillation which is incompatible with life would result. It is believed, however, that this very condition, ventricular fibrillation, is not infrequently responsible for sudden and unexpected deaths.

For twenty years, Mackenzie tells us he made this condition a subject of special study and found that 70 to 80 per cent. of all cases of really serious heart failure belonged to this class. What puzzled him most was the fact that as soon as the characteristic ventricular irregularity appeared, all evidence of auricular systole disappeared. He thought he had solved his problem, however, when upon making his first post-mortem in a case of this kind he found the auricles distended and thin-walled, and concluded that the auricles in those cases must be paralyzed. In his book on the pulse published in 1902 the condition was ascribed to paralysis of the auricle. At his next post-mortem, however, of a case of this kind he had watched for years, he found the auricular walls hypertrophied and reasoned, that, being hypertrophied they must have been functionally active. But as, in life, he was positive the auricle did not contract during ventricular diastole he concluded that auricle and ventricle must have contracted simultaneously, from a common impulse generated probably at the auriculo-ventricular node, and hence called the disorder "nodal rhythm," under which caption the condition is described in his "diseases of the heart," first published in 1908.

In 1905 Cushny suggested that this condition might be due to auricular fibrillation, or functional fragmentation of the auricle and though Mackenzie detected evidence of auricular fibrillation in some of his jugular tracings, he did not realize the significance of his tracings until Lewis in 1909 by means of his polygraph and electro-

cardiograph showed the exact resemblance between this clinical condition in man and that produced experimentally in the lower animals. To Lewis is, therefore, due the credit of having by his physiologic researches, found the rational explanation of a serious condition that for years had baffled the best minds. Whether the percentage of auricular fibrillation in those admitted to a general hospital suffering from serious heart trouble be as high as Mackenzie puts it—70 to 80 per cent., or only 60 to 70 per cent, as Lewis says, the condition is certainly one of extreme gravity, and the importance of its early recognition cannot well be over-emphasized, as judicious early treatment frequently brings much comfort to the patient, though most of the cases sooner or later drift to a fatal termination accompanied by all the classical symptoms of heart failure.

The principal causes operative in the production of auricular fibrillation are rheumatism, and cardio-sclerosis in those of advancing years. No age is exempt though the incidence is heaviest between the ages of 20 and 40, men suffering much more frequently than women in those cases, curiously, where a history of rheumatism or chorea can not be established. In rheumatic cases the sexes are about equally divided.

The relative frequency of rheumatic fibrillation in women is closely associated with the prevalence of mitral disease in this sex—auricular fibrillation and mitral stenosis being frequently found together. Lewis gives statistics to show that 70 per cent. of his cases of fibrillation gave a rheumatic or choreic history, and the prevalence of fibrillation amongst those who suffer from mitral constriction is especially noteworthy—no fewer than 52 per cent. of his cases having this valve lesion. The one condition cannot, however, be said to be dependent upon the other, as they not infrequently occur independently, and the same may be said relative to myocardial degeneration, which is a prolific source of auricular fibrillation, yet the one frequently occurs in the absence of the other. Valve lesions, then, are frequent accompaniments of this condition, as may be determined by bed-side examination, but at the same time it is not an uncommon occurrence to find hypertrophy and dilation of the auricles as well as enlargement of the whole heart, as accompaniments of fibrillation even in the ab-

sence of valvular lesions which might be held accountable for them.

The degeneration most commonly present is that found by the microscope, and is in the form of a more or less intense sub-acute or chronic inflammatory change progressing to fibrosis, and accompanied by a leucocytic infiltration and atrophy of the neighboring muscle cells, but whether the presence of these histologic changes justify us in concluding that fibrillation is due to them seems open to doubt, as similar changes have been found in hearts where fibrillation never occurred and on the other hand, this disorder of mechanism has been present in hearts which, upon examination later, showed no such histologic changes. It is a legitimate conclusion, however, that the morbid changes present in the organ are the direct result of infections producing heart failure, though we may yet be ignorant of the reason why fibrillation occurs in one case and not in another.

While the symptoms complained of by patients with auricular fibrillation may be a sense of fluttering in the chest and neck and a consciousness of irregular heart action, the principal symptoms are those dependent upon the concomitant condition present; namely: a degenerate and failing heart though it is a fact that those affected with fibrillation usually suffer more acutely from shortness of breath, exhaustion and other symptoms of over-taxation of the heart muscle than do those with an equal degree of dilation or valve lesion in the absence of fibrillation, and this is no doubt due to the extra burden imposed by the disorderly action of the organ in this condition. It cannot, however, be said that any of the classical symptoms of heart failure, such as cyanosis, venous engorgement, dropsy or conspicuous dyspnea is the direct result of auricular fibrillation, for these are frequently present in cases where there is no fibrillation, and instances of fibrillation are not rare where these symptoms are not present. The two prime factors then, in the production of the symptoms in this condition are believed to be first, the widespread degeneration of the heart muscle, and second, the embarrassment caused by the extremely disorderly action of the organ.

In the clinical recognition of auricular fibrillation one gets more assistance from the nature of the ventricular action than from any other



source, except, of course, the polygraphic tracing which is positive. If the heart beats irregularly at 120 per minute or over, the irregularity is almost always of this nature, while if the irregularity be accompanied by signs and symptoms of serious heart failure the diagnosis is practically certain. If the heart is irregular, but not much accelerated and the signs of heart failure few or absent, a differential diagnosis may be made between fibrillation and some other form of irregularity by putting the patient through certain movements, as sitting up in bed a few times, when, with the cardiac acceleration due to the exercise it will be found that the irregularity is increased if due to fibrillation, while if due to extra-systole or partial heart-block, for example, the irregularity of the pulse will in all probability be temporarily abolished. As the pulse slows down the reverse is, of course, the case, the irregularity becoming less marked in fibrillation and more pronounced in the other conditions mentioned. Fever also by causing pulse acceleration acts in the same way.

The persistence of the irregularity due to auricular fibrillation is also deserving of notice, as in cases of this kind it is usually continuous from the time of observation till death, while the other irregularities are much less constant.

The virtual paralysis of the auricle in fibrillation is responsible for alterations in the adventitious sounds heard in those who have mitral stenosis with which it is so frequently associated. It has become customary to refer to the disappearance of a presystolic mitral murmur as almost pathognomonic of auricular fibrillation, but it is doubtful if this is an infallible or even a safe guide, because, while it is true that a short presystolic murmur disappears when fibrillation sets in, a longer, rougher murmur is preserved during fibrillation, though its time relations are somewhat altered. If the heart rate is rapid, as it usually is, the murmur can be heard during the entire diastolic period, while if the heart be slow, the murmur maintains its relation to the second sound, but vanishes at a varying interval from the succeeding first sound, so, we submit, it is rather misleading to say that presystolic mitral murmurs *always* disappear when fibrillation begins.

No one will be far astray, however, who bases

his diagnosis of auricular fibrillation upon the following facts, viz:

1. *Disorderly* heart action, especially if accompanied by evidences of failure and acceleration.

2. Disappearance of a *brief, crescendo*, presystolic mitral murmur.

3. Disappearance of all signs of the auricular systolic wave in the polygraphic tracing of the jugular pulse, due, of course, to the virtual paralysis of the auricle, and the appearance of the so-called ventricular venous pulse, synchronous with the carotid, and due to the blood being forced back into the veins through the tricuspid orifice by the contraction of the right ventricle, there being no longer a compensatory dilating auricle interposed between the ventricle and the veins.

The severity of the other cardiac or secondary conditions present have much to do with prognosis in this condition, though fibrillation gives added significance to the case. As has been intimated, it is an evidence of very serious myocardial involvement and is a forerunner of temporary or permanent heart failure; few thus affected lasting more than ten years, and many dying earlier. By far the most important prognostic indication is the behavior of the heart under treatment. A patient with a persistent heart rate of 160 will not last many weeks, indeed, a heart rate of 120 is a serious omen unless it can be controlled and brought down to a point where the remaining energy of the organ will be conserved.

Fortunately, auricular fibrillation has been said to be the condition to which drugs of the digitalis group owe their well founded reputation. There is no other cardiac condition which responds so promptly or so satisfactorily to treatment as does fibrillation to rest and the judicious administration of digitalis. Where digitalis or one of its congeners fails to act, there is nothing more can be done, but it rarely fails, especially in younger patients where the causative agent has been rheumatism or chorea, and even in older patients, with advanced cardio-sclerosis, it brings at least much comfort from the distressing dyspnea and tumultuous heart action, though, of course, the condition remains with them to the end of the chapter.

7001 NORMAL BOULEVARD.

## SPONDYLOTHERAPY IN EXOPHTHALMIC GOITRE.\*

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A few words in explanation of the meaning and purport of spondylotherapy may not be amiss. This neologism was first employed by Dr. Albert Abrams from the Greek *spondylos*, vertebrae, and *therapeia*, treatment. This author and scientist has devoted many years and much study to investigating the spinal reflexes.

Spondylotherapy may be defined as the therapeutics of the reflexes. It is no more suggestive of an exclusive method of practice than electrotherapy or hydrotherapy, but merely suggests or emphasizes the importance of the spinal cord as the center for the discharge of the majority of reflex actions.

As no system can exclusively preempt the field of therapeutics, the author of Spondylotherapy advocates the employment of all the resources of scientific medicine bearing on the treatment of disease.

If we regard disease as an expression of morbid physiology all methods or means employed to bring about physiologic equilibrium should be included in scientific medicine, provided they are based on sound scientific principles.

If it be remembered that life is expressed by a rhythmic flow of automatic functions known as reflexes, one can readily conceive that some knowledge of these reflexes is of great importance in successfully combating the many morbid changes found in the human body.

Each reflex has its opposite or antagonistic reflex and when both are in coordination a physiologic condition results. A disturbed function or a pathologic condition results when there is an in-coordination of these reflexes. When a state of in-coordination prevails, there ensues a functional disturbance and finally, pathologic changes in the organ or tissue affected. In other words, pathologic tissue change is not a prerequisite of disease, but is physiology in a state of disequilibrium; that is, perturbed physiology creates its own pathology and anatomic changes are sequential to disturbed or perverted physiologic functions.

Many clinical symptoms are merely defensive reflex phenomena. As a paradigm may be mentioned hyperemia. As is well known, this phenomenon has been utilized by Bier and others in the treatment of various affections. Muscular spasm may be mentioned as another defensive reflex expression. In this way a diseased joint or spine may be immobilized or a diseased or sensitive viscus protected.

The different reflexes may be elicited in various ways, but as the discussion of these phenomena is limited in a paper of this length we shall, as an illustration, refer briefly to the heart reflex of contraction. What is known as the reflex of Abrams is a contraction of the myocardium, of varying duration, when the skin of the precordial region is irritated. It is very probable that the chief benefit derived from the Nauheim baths in cardiotherapeutics is due chiefly to the elicitation of the heart reflex of contraction by friction of the precordial region with coarse towels.

Another method of eliciting this heart reflex is by irritating mucous membranes, be they nasal, pharyngeal, laryngeal, esophageal, gastric, intestinal, rectal, urethral or others. The inhalation of irritating vapors by their action on the respiratory mucous membranes will produce this heart reflex. In a few instances ether and chloroform by this action have produced a veritable cardiac inhibition.

Sudden and mysterious deaths have occurred during urethral instrumentation; probably due to producing this reflex to the degree of inhibition by the irritation of the urethral mucosa. This reflex phenomenon may also explain the sudden deaths of gastric origin.

Percussion of the muscles of the upper extremities will also produce this reflex.

Psychic influences act powerfully in causing this heart reflex, especially the emotion of fright. This can be readily demonstrated with the X-ray. Inform the patient standing before the X-ray that you find it necessary to cauterize a certain area with a red hot iron, or frighten him in some other way, and the heart will be seen to reduce in size and appear to retreat toward the neck, thus demonstrating some justifications for the conventional expression: "My heart was in my mouth." Because of this influence on the heart it is of

\*Read before the Madison County Medical Society, Nov. 7, 1913.



great importance to eliminate emotional factors in treating heart disease.

Concussion of the spinous process of the seventh cervical vertebra is another method of eliciting this heart reflex by stimulating the vagus fibers which increase the contractility of the myocardium.

Now, it is through influencing the tonicity of the vagus or pneumogastric nerve that beneficial results follow in treatment of exophthalmic goitre.

The tenth or pneumogastric nerve is the longest and most extensively distributed cranial nerve and contains motor and sensory fibers. This nerve sends motor branches to the soft palate, pharynx, larynx, bronchial tubes, heart, and abdominal organs, and sensory filaments to the pharynx, larynx, trachea, and esophagus. It also communicates with the sympathetic and the 9th, 11th and 12th cranial and 1st and 2nd cervical nerves.

Now, Abrams' theory of the cause of exophthalmic goitre is an angioparalytic affection producing a vagus hypotonia; and the results obtained by his method of treatment in this disease justifies one in concluding that this theory is not far wrong.

Furthermore, the physiologic tonus of the vagus is dependent on the thyroid secretion. When the latter is increased above normal a state of hyperthyroidism ensues.

Variations in vagus tone may involve the entire nerve, or it may be confined to one or more of its individual branches. In a state of hypotonia of the vagus the blood vessels of the tissues or organs supplied by this nerve are in a more or less relaxed condition conducing to a state of congestion. Increasing vagus tone puts those blood vessels in a state of contraction, because their walls become more tense, and it is reasonable to assume that one can diminish the activity of this gland by diminishing its circulation.

Now, any method of treatment which will reduce the blood supply to the thyroid gland will prove beneficial in this affection. Every successful method of treatment of this disease, either medical or surgical, has been directed toward the reduction in the size of the thyroid gland.

The theory which has gained most favor as the cause of exophthalmic goitre or hyperthyroidism is a hypersecretion of the thyroid gland, the sys-

temic effect of which is a form of chronic intoxication. But what causes this hypersecretion? Any cause such as some of the acute infections, over-fatigue, depressing emotions, especially worry, anxiety, and fright may be etiologic factors in this disease. These states or conditions conduce to a vagus hypotonia, this in turn bringing about an excessive functionation of the thyroid gland as previously explained.

Increasing vagus tonus by stimulating the vasomotor center in the cord by concussion of the seventh cervical spinous process suffices to relieve and even cure the affection in question.

The symptoms which yield most rapidly to treatment by concussion are tachycardia, flushing and tremor. The enlarged thyroid also yields if the enlargement is vascular. If the enlargement is due to the development of fibrous tissue no reduction in size of the gland need be expected by this treatment. When the gland is soft and tender to the touch and a distinct systolic blowing is heard an auscultation reduction to normal size may confidently be expected. In other words, the greater the vascularity of the gland the greater is the chance for its reduction by this treatment.

Occasionally one meets with a goitre which is a true hypertrophy occurring in a response for an augmented supply of secretion. Here the use of thyroid extract will cause a reduction in the size of the gland.

After the cardinal symptoms have subsided and the vascularity of the gland has been reduced to normal by the concussion treatment, sometimes a considerable enlargement will still remain. This will be firm and unyielding to the touch with no systolic blowing sound and is due to fibrous tissue development. This, however, may be still further reduced by the use of the galvanic current.

An electrode saturated with a solution of thio-sinamine and attached to the positive pole is applied over the goitre, the negative electrode applied to an indifferent place. Treatments of ten minutes each may be given two or three times a week.

Exophthalmos may or may not yield to concussion. If it is due solely to contraction of Muller's muscle results may be expected.

This muscle is attached to the bony wall of the orbit and is inserted into the sclerotic coat of

the eyeball and the upper and lower lids, and is innervated by the cervical sympathetic.

In the norm the fibers of the vagus and the sympathetic fibers are in physiologic antagonism, the action of one counterbalancing that of the other. In hyperthyroidism this balance is disturbed, the sympathetic fibers being in the ascendant producing a vagus hypotonia. By increasing vagus tone this physiologic disequilibrium is removed, thereby overcoming the contraction of this muscle and the exophthalmos due to this cause is overcome.

In cases of long standing the exophthalmos may be permanent owing to a deposit of orbital fat even though the muscle of Muller is no longer in a state of tonic contraction.

Concussion treatments are usually given daily. For this purpose are used a plexor and pleximeter. The plexor is a hammer commonly used for diagnostic purposes. The pleximeter is a piece of metal covered at one end with rubber. Concussion blows should be delivered directly over the spinous process of the seventh servical vertebra at the rate of about two per second, continued for one-half minute, followed by a half minute interval, and this repeated so that a seance will last three minutes.

Under this treatment in recent cases a decided improvement will be manifest in a few weeks. Tachycardia, heart irregularities, flushing, excessive perspiration, etc., will rapidly subside. In some cases no other treatment will be found necessary.

In some resistant cases other measures should be added, such as rest in bed, the elimination of emotional factors, the avoidance of tea, coffee, alcohol, and drugs which decrease vagus tone, such as iodides, adrenalin, atropin and thyroid extract.

Drugs which increase vagus tone may be of some benefit, such as quinine hydrobromid, iron arsenate, ergot, nux vomica, digitalis and strophanthin. Some good results have been reported from the use of chromium sulphate. Iron may be beneficial for the anemia. Among the most satisfactory drugs for favorably influencing this disease is quinine hydrobromid given to the limit of the patient's tolerance. The drug must be taken for months or years. Quinine increases vagus tone and its beneficial action in this affection is

in all probability due to its effect on the vagus. It is well known that quinine is effective in enlargement of the spleen. The best explanation of this action is that it contracts this organ by stimulation of the vagus.

Rest in bed is a valuable aid in the treatment of this form of goitre, because mental and physical rest are important factors in the restoration of normal vagus tone.

When the sympathetic is stimulated the tonicity of the vagus is reduced. Emotional disturbances produce sympathetic irritation, and therefore vagus depression. Hence the elimination of emotional disturbances is important.

There may be many minor and atipic manifestations of hyperthyroidism. The thyroid gland is more active in women than in men. This accounts for the predominance of their nervous and hysterical symptoms, and the fact that this affection occurs more frequently in the female sex.

Menorrhagia in young girls and women is often a symptom of hyperthyroidism. This form of menorrhagia may be controlled by the administration of mammary extract.

A transitory hyperemia of the gland occurs in females at puberty, menstruation, and pregnancy. And it is not unlikely that many of the symptoms at these periods are due to a supernormal secretion of this gland. Menopause symptoms may be associated with hyperthyroidism.

Typical cases of this affection are easily recognized, but it requires diagnostic acumen for the recognition of minimal hyperthyroidism. And this is of importance, as the early recognition of these atipic forms may determine the etiology of many obscure affections which masquerade under many different names. Treatment by spinal concussion is equally efficient in these atipic forms of this disease.

The medical profession is indebted to Dr. Abrams for this method of treatment of this disease. It is so simple and easily applied that it should at least be given a trial. There is ample clinical evidence to show that this is a more efficient means to effect a symptomatic cure in this disease than any other known non-surgical method of treatment. Nearly all cases can be benefited and a large percentage symptomatically cured by the use of this method in connection with other appropriate treatment.



It is true some cases of failure have been reported, but on inquiry it was found that this was due to faulty technique. Either the vagus was over-stimulated or stimulation applied on a too extensive area.

If the vagus is over-stimulated the reflex is exhausted and no beneficial results will be obtained. Stimulus should not be applied to exceed a half minute at a time. Neither should the treatment be applied, to produce this particular effect, over any other vertebra except the seventh cervical. For instance, if this treatment is applied over the third and fourth dorsal vertebrae the opposite effect ensues, that is, the tone of the vagus is diminished and the symptoms of the affection under discussion will be aggravated.

When the third and fourth dorsal vertebrae are concussed the sympathetic roots of the second to the fourth thoracic segments of the cord are stimulated, and therefore vagus tone is diminished because the sympathetic and the vagus are in physiologic antagonism and when one is stimulated the other is depressed.

Concussion or pressure at the seventh cervical spine augments vagus and depresses sympathetic tone. Concussion or pressure between the third and fourth dorsal spines increases sympathetic and decreases vagus tone. Concussion or pressure should not exceed one minute in duration to avoid exhaustion of the reflex.

We owe it to our patients to give them the benefit of a thorough trial by this method of treatment in the disease under discussion before resorting to surgery. And considering the results obtained by the physicians who have tried it, it is not unreasonable to assume that a symptomatic cure will result in a large majority of cases and beneficial results will follow in all cases.

## DRAINAGE OF THE GALL-BLADDER IN TYPHOID CARRIERS.

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It is not my intention this evening to present a complete scientific paper on the subject of typhoid carriers, nor as complete as was my original intention, but merely to report a case under my immediate care recently.

Owing to my paper being advanced somewhat earlier in the season than I expected, I am not able to furnish the final data which I hoped to have on examining the patient after four months. She lives in Dakota, and was to have returned to see me this month.

Mrs. S. came to Chicago, July 21, 1913, for a pelvic operation. Her general symptoms were headaches, nausea, nervousness and prostration, with periodical "bilious attacks." About five years ago had an attack of illness lasting three months, at which time her physician had several consultations and the case had been called an atypical typhoid, there being at no time any rise of temperature, although repeated attacks of chilliness. Coming here on the train she had an unusually severe bilious attack, with vomiting, diarrhoea and headache, so that on arrival here she was ill, and so was urged to go immediately from the hotel to the hospital after one day.

On physical examination she was found to be poorly nourished, skin yellow and dry, complexion poor and red splotches would appear on the face, neck and arms and disappear irregularly as to time and location. No splenic enlargement, no marked tympany over abdomen, no iliac tenderness, no tenderness over gall-bladder or stomach.

A blood specimen sent to the municipal laboratory, July 23, was reported back: Widal positive. Thinking it might have been confused with that of another patient, sent at the same time, two other specimens were sent to two different private laboratories at the same time, both reporting back after sixteen hours:

Widal positive. July 25, 1913.

Dilution      Reaction.

	5 mins.	1 hour.	16 hours.
1-50	Motile	Partial	Complete.

Immobility, complete.

Agglutination, marked.

Disintegration, none.

I then had a complete urinalysis with a culture made of same, which resulted, fresh smear: No bacteria; sediment, entirely inorganic; tubercule bacilli, absent; typhoid bacilli, absent; colon bacilli, absent; diplococci and micrococci, present; growth, slight. Feces showed; typhoid bacilli, few present; colon bacilli, few present; isolated typhoid bacilli produce no indol.

Fermentation tests negative. Widal test positive.

I will here mention that all the superficial glands of the body were enlarged, i. e., cervical, axillary, inguinal, popliteal, etc.

After several days' observation, I concluded on advice to drain the gall-bladder, which was done on July 28.

The usual incision was made, and on opening the peritoneal cavity a cyst-like organ appeared at opening. On digital examination it seemed too large for the gall-bladder, and more like a distended stomach or bowel, being fully the size of a large orange, but in tracing it to its cystic duct and supraduodenal common duct it was identified. After fixing it, a trocar was introduced, but no bile appeared until it was pushed well down into the cystic duct, the organ being evidently distended by gas and only a small amount of thick, tar-like bile being present.

On examining the interior digitally, found a rough and thickened endothelium with trabeculae, each one of which seemed to contain deposits of inspissated bile, which was also adherent to the entire wall and had to be removed by wiping off with dry gauze repeatedly. On inspection it showed thickening and extreme redness, possibly on account of the recent attack of irritation. No stones were present, only a quantity of the bile particles. A drainage tube was inserted and the patient made an uneventful recovery, without temperature at any time since first seen.

Bile was examined bacteriologically. Culture was negative.

Examination of blood was made:

July 31: Positive, third day after operation.

Aug. 6: Negative, eighth day after operation.

Aug. 8: Negative, tenth day after operation.

Aug. 18: Negative, twentieth day after operation.

Aug. 23: Negative, twenty-fifth day after operation.

Ophthalmic examination was made by Dr. Arthur Hunneman, Aug. 25, 1913, as follows:

Right: Media: Lens—one small opacity, but do not believe this is of any importance in her case. Vitreous—one fairly large floating opacity, semi-transparent (exudate).

Left: Media—clear. Fundi—optic nerves of both negative. Periphery of fundi—degenerative changes; small semi-transparent grayish areas of exudate, as if early stage of specific choroiditis.

In the April 26 number of the *Journal A. M. A.*, Dr. Thomas J. Leary, First Lieutenant of the Medical Corps, U. S. Army, reports two cases, in which he removed the gall-bladder and cystic duct. The laboratory reports are the same as in mine as to feces, positive for typhoid; urine, negative. Both of his cases cleared up in nine days.

Owing to a suggestion of the oculist that the ophthalmic finding might be due either to luetic or a long-continued autotoxemia, a Wassermann was made on August 28, which was negative. No history of lues of either the woman or her husband was obtained. She made an uneventful recovery, gained in weight, and a letter recently received reports she was better than for years.

Simpson, of Winnipeg, in speaking of typhoid

in Manitoba, believes water contamination plays a subordinate role in the causation of typhoid in cities or towns, but that the itinerant typhoid carrier is a greater factor and recommends that no convalescent typhoid patient be discharged as cured by hospital or physician until examination of urine and feces be found negative.

Charles R. Grandy and C. J. Andrews, of Massachusetts, state that ten per cent. of convalescents when discharged from treatment still have active bacilli in the discharges.

Aside from the cases of Dr. Leary, the only references to be found on the subject in American medical literature were in the *Journal of Public Health*, showing that work along these lines is recent.

So far all the specific cases mentioned are of male carriers, usually soldiers, sailors, harvesters, etc., showing the aptitude to overlook it in the female who wanders around less and complains of multitudinous ailments more or less easily, all of the time.

#### CONCLUSIONS.

1. Typhoid fever diagnoses are not always made at the initial illness.

2. In view of the fact that typhoid is so general in its distribution and now known to be so chronic in its course, would it not be well to add to our routine examination of all cases showing autotoxemia as a symptom, or other obscure symptoms, the Widal test, the urine culture and examination of feces?

3. That we seek to determine whether chronic typhoid carriers yield to modern medicine or are surgical cases.

4. That we ascertain whether a simple drainage of the gall-bladder be sufficient, or removal of gall-bladder and cystic duct be necessary.

5. That typhoid carriers should be prevented from wandering, *i. e.*, be placed under public health control, but *treated* as well as quarantined.

#### DISCUSSION.

DR. E. M. BROWN: The subject of typhoid-carriers is a long one, and the question of drainage of the gall-bladder in typhoid-carriers is at the present time, of course, unsettled. There are a few things that it might be worth while to mention in regard to typhoid and gall-bladder disease. It is a fact, as we undoubtedly know, that the gall-bladder seems to be the favorite seat of the typhoid bacillus, or, at any



rate, the typhoid bacillus lives for a long while in gall-bladders. It is found in the intestinal tract frequently, of course, and for many years after the attack of typhoid fever. It is found in the intestinal tract some time before the patient has had typhoid—at least, presumably before he has suffered from it. It is probable that those cases in which the bacillus has been found in the intestinal tract and gall-bladder, without the history of typhoid, belong to that class of cases in which the only symptom of typhoid was a characteristic cholecystitis. Many such cases are reported in the literature, many of which have been operated upon, the gall-bladder removed or drained and the patient recovered.

As to how the bacilli get to the gall-bladder, whether through the intestinal tract, the circulation, or the lymphatics: It is believed by most observers today, with some in doubt, that the typhoid bacillus gains entrance to the gall-bladder through the blood stream. Experiments have been performed by various workers, in which the common duct has been tied in rabbits, and then the typhoid bacillus introduced intravenously, and later, as early as eight hours, the bacillus has been found in the gall-bladder, presumably the only way of entrance being the blood stream. Joseph Koch found that the bacillus of typhoid gained entrance, not from the intestine, but through the circulation—possibly through the lymphatics as well, as has been suggested in regard to other infections which gain entrance to the gall-bladder; for instance, when we have infection of the appendix, later having attacks of gall-bladder disease, the infection presumably traveling along the lymphatics and gaining entrance to the gall-bladder in that way.

Having, then, the bacillus in the gall-bladder, what shall we do with it? Most cases are amenable to surgery or drainage of the gall-bladder. The cases might be classed as convalescent carriers, the so-called precocious carriers, the temporary and intermittent carriers and chronic carriers. These last probably constitute that class of cases in which typhoid bacilli are found over three months after the attack of typhoid. Sometimes in these, and especially in acute typhoid, acute cholecystitis lights up, that is, symptoms referable to the gall-bladder are present, of so acute a nature that they require immediate drainage, caused either by the bacillus alone or combined with other bacteria in the gall-bladder.

Advice as to what should be done in chronic carriers would depend largely on whether we could limit the growth and multiplication of the bacteria to the gall-bladder and ducts. If we are convinced that the growth of bacteria is limited to the gall-bladder, and that they are being poured into the intestine, consequently exposing others to infection, then probably it would be justifiable to drain the gall-bladder, and thereby overcome the tendency to carry the infection further. However, it is difficult at the present time to say when we can do that. Cases have been

operated upon—typhoid carriers, in which the Widal was present and in which the bacteria were found in the intestine, in which there was a cholecystitis present, and the gall-bladder drained, and no typhoid bacilli found in the gall-bladder. On the other hand, they are found very frequently in the gall-bladder, the bile being a particularly good medium for the growth of the typhoid bacillus.

As to the length of time in which they might be alive in the intestine or gall-bladder. They have been found in the intestine or gall-bladder as long as fifty or fifty-two years after the attack of typhoid. They are supposed ordinarily to disappear within three months, but in some chronic typhoid carriers they have been found after such a period as just stated.

The evidence in favor of chronic carriers transmitting the disease is overwhelming; the bacilli being constant in the stools, urine, etc. However, attention has been called to evidence on the other side. The danger of typhoid, it is said, is not so great as is generally supposed, even in those who have gall-bladder disease, and a great number of typhoids have gall-bladder disease, and vice versa.

Linossier calls attention to the fact that while there are perhaps ten thousand people visiting the waters at Vichy yearly, most of whom have gall-bladder disease, very few cases of typhoid occur there. Of course, it must be remembered that the people visiting there come from the wealthier classes, are more cleanly than the average perhaps, and are advanced in years and consequently the danger of infection from them would be less than among younger or less cleanly people. However, I think the evidence is all in favor of the fact that the typhoid carrier is a dangerous person, especially one with the typhoid germs in the gall-bladder, and if I had my choice I would like to drain all those cases. However, this is not practicable at the present time, and possibly not advisable until we are more certain as to the sources of infection—especially the growth—whether it is in the gall-bladder itself, whether it occurs in the hepatic ducts, in the smaller ducts of the liver, as has been shown by some, in little clumps and nests in which they may be hidden for some time and suddenly break away, or whether they remain stored up in other organs, the intestine, genito-urinary tract, and even the cerebro-spinal fluid. Only such work as Dr. Lobdell has reported will finally elucidate these points.

Dr. I. J. K. Golden: I think it would save much discussion on the subject of draining the gall-bladder in cases of typhoid fever if we bear in mind the action of hexamethylenamin. It seems to me that if every patient recovering from an attack of typhoid fever be ordered to take, say, ten grains of formin for a time until all of the bacilli have disappeared from urine and feces, we will have less worry about draining the gall-bladder. I have not had occasion to drain the gall-bladder in a case of typhoid and cannot see any justification in exposing a patient to the inconvenience and danger of gall-bladder drainage.

# INSANITY WITH SPECIAL REFERENCE TO THE DIAGNOSIS AND PROGNOSIS OF ITS COMMON FORMS.\*

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The subject of insanity should interest not alone the alienist and psychiatrist but members of the general profession as well. When we come to realize that mental disorders occur with surprising frequency in rural as well as in urban districts and that the heavy burden of responsibility as regards the early diagnosis and perhaps early treatment of the same must needs rest upon the general profession, we can better understand the peculiar attitude which the practitioner necessarily occupies in his relation to the various mental affections. It is not the specialist, skilled in mental disorders, who first sees the vast majority of these unfortunate individuals and gives them the benefit of special knowledge and training, but it is the faithful family physician who first comes in contact with the border-line and acute cases and upon him largely rests the responsibility not only of detecting the early signs of insanity but of instituting prophylactic measures before pronounced mental changes occur. It is not the object of this paper to present an ultra-scientific dissertation on the various insanities, but rather it has been prepared in the hope of stimulating interest in clinical psychiatry among members of the general profession.

Without attempting to enter into the general subject of insanity, particularly in regard to the merits or demerits of existing classifications, I will for purposes of simplicity present the clinical classification of the elemental forms of insanity as outlined by Dercum. These forms I will

1. Delirium, confusion and stupor.
2. Melancholia, mania and circular insanity.  
(Manic-depressive insanity.)
3. Dementia praecox.
4. Paranoia.
5. Neurasthenic-neuropathic insanities.  
(Psychasthenias.)
6. Dementia.

Using this classification as a working basis I will now submit certain clinical factors which are of more or less aid in arriving at a diagnosis of a mental disorder. Briefly enumerated these factors are as follows: The age of the patient, the predisposing or exciting causes, the onset and course of the disease, the emotional state, the presence or absence of hallucinations, illusions or delusions, the condition of consciousness and memory, and the absence or presence of physical signs.

*Diagnosis.* In considering the *age* of the patient in relation to mental disorders many interesting and practical points can sometimes be ascertained. We know that in childhood insanity is a rare occurrence. True it is that we find idiocy and imbecility at this time, but these conditions are not insanities, but are due rather to gross morphologic and pathologic changes or defects. The forms of mental disorder which characterize this epoch are those of the first group, delirium, confusion and stupor. The acute infectious diseases, the exanthemata, etc., are encountered often with a delirium accompanying the height of the febrile movement or following in its wake. Delirium is quite a common occurrence, confusion somewhat rare, and stupor while more frequently encountered than confusion, is still less met with than delirium.

The period of pubescence extending from the thirteenth to the twenty-first year is of vast importance as regards the development of certain mental disorders. I refer especially to the insanity of youth or the dementia praecox group of Kraepelin. While delirium, confusion and stupor may be met with, mania and melancholia are rare, although as early adult life is approached periods of depression or excitement may foreshadow the development of a member of this group; the neurasthenic insanities may be encountered, but as before stated the dementia praecox group is especially characteristic of this period.

Early adult age, from eighteen to thirty years, is a time in which certain mental disorders are most prone to occur. While delirium, confusion and stupor may still be encountered and members of the praecox group may occasionally be met with, as is also true of members of the neurasthenic group, still there can be no question but

\*Read at a meeting of alienists and neurologists, held under the auspices of the Chicago Medical Society, June 23-25, 1913.

<sup>1</sup>Dementia praecox was not treated by Dercum as an elemental insanity in his original communication, but recently it has been included in Group 4 under the caption "Hebroid-paranoid."



that manic-depressive insanity occurs pre-eminently during this age.

Mature adult age is sort of a halfway station in the span of life. During this period which extends from the thirty-fifth to the fiftieth years of life, members of groups 1 and 2 are sometimes encountered, the neurasthenic insanities and likewise dementia may be met with, but the disorder which most requires our attention is paranoia or systematized delusional insanity. Incidentally, the vast majority of cases of dementia paralytica occur also during this period of life.

The involutionary period of life occurs from the forty-fifth to the sixtieth year, the so-called middle, adult age. During this period we know that normally the nutrition begins to wane and the catabolic changes of metabolism begin to equal or exceed the anabolic processes. It is not unnatural therefore to expect to find diseases characterized by involutionary changes in nutrition and here the involutonal type of melancholia is met with. We find that this type differs somewhat from the melancholia of early adult life in that its wave of depression is perhaps not so great, but is of much longer duration and offers a much less favorable prognosis. Mania may occur at this age but does so only with rarity, while the same possibilities as met with in mature adult life may also be encountered.

In considering the insanities of old age, from fifty-five to seventy years, we at once think of senile dementia, although we may also find members of the first group.

Thus we see that delirium, confusion and stupor may occur at any period of life. Manic-depressive insanity appears from adolescence to old age, but is most common between the eighteenth and thirtieth years and again in middle life. Dementia praecox appears most frequently between the ages of fourteen and twenty-four, some few cases of hebephrenia developing earlier and occasionally the paranoid form appearing later. Paranoia is distinctly a disease of adult life, appearing usually between the third and fourth decades. Dementia paralytica or paresis is usually encountered from thirty-five to fifty, although some cases may appear earlier or later. The neurasthenic insanities may occur from puberty to middle life while

senile dementia is distinctly an affection of old age.

In considering the *predisposing* or *exciting causes*, the family and personal histories should be carefully considered, as much light may be thrown on an otherwise darkened and uncertain diagnosis. For instance, given a history of insanity, epilepsy, neuropathy, alcoholism, etc., we at once realize that favorable conditions or influences existed among the ancestors for the development of mental disorders. Kraepelin holds that hereditary influences in the manic-depressive group are present in eighty per cent of the cases, while Dercum maintains that the percentage is even higher. Again, such a history is in perfect keeping with the development of such conditions as paranoia, the neurasthenic group and even dementia praecox, although it would appear that the latter is not so dependent on such a history as are some of the other forms, especially the manic-depressive group. With the various laboratory aids now at our disposal, particularly the serum complement test of Wassermann, we feel certain of the role played by the spirochaeta pallida as the exciting agent in the vast majority, if not all, of the cases of dementia paralytica. This is especially emphasized by the work of Noguchi and Moore demonstrating the presence of the spirochete in the cortex cerebri of paretics, hence the occurrence of a history of an antecedent leutic infection, or a positive Wassermann reaction, particularly in a middle aged individual, would at least be suggestive of paresis. Should the patient be suffering from a severe infection, as one of the exanthemata, or a pneumonia, or typhoid fever, or convalescing from such a condition, the likelihood is that we are dealing with a member of the first group, delirium, confusion or stupor. This would also hold true if there was a history of prolonged alcoholism, or the abuse of morphin, cocain or other drug.

The *onset* and *subsequent course* of the disease is of inestimable diagnostic value in some cases of mental disorders. For instance, examination of the patient alone might avail but little in differentiating between imbecility and dementia. Here we have in common a quantitative mental deficiency, yet in imbecility there has always been mental poverty while dementia represents a loss of something the individual formerly possessed.

Without a history it is at once apparent that a diagnosis may be extremely difficult, if not impossible, in such a condition or in a case of imbecility and arrested dementia praecox. A history of a slowly developing and deepening depression accompanied by delusions of self-blame would point toward a melancholia, especially if similar attacks had previously been entertained. True the depression of paresis in a middle aged individual may be suggestive of a beginning involutional melancholia but the probable evidence of syphilis, the presence of physical signs, and the absence of "self-blame" would render the diagnosis plain. The statement that a child had ceased to make progress at school, remained quiet and indifferent to his surroundings, entertained delusional ideas and ran away from home, would lead one to suspect dementia praecox. In an alcoholic, the sudden onset of mental symptoms with excitement, accompanied by visual and aural hallucinations, generally terrifying in character, suggests delirium tremens, while a similar excitement developing during the puerperal state would be suggestive of puerperal delirium.

In considering the role played by the *emotions* in the various mental disorders, there is little question but that the same is quite conspicuous in the manic-depressive group. Here is found usually a profound, persistent depression on the one hand, or marked exaltation and expansion on the other hand, the emotions dominating the clinical picture. While it is true that periods of depression and expansion occur in other conditions, yet the same are not as constant or characteristic as in the group just mentioned and are usually accompanied by other symptoms. For instance, in dementia praecox there seems to be no dominating emotional state and while periods of depression and expansion may occur there is also generally some evidence of mental enfeeblement. In paresis similar emotional states may be found but here we also have physical signs to aid us in making the diagnosis. The paranoiac usually passes through a period of depression (neurasthenoid state) which eventually terminates in a wave of expansion (change of personality) and while it may be said that the emotions play no special role, yet egotism and suspicion are usually present together with the

characteristic delusions, systematized and fixed in type. In the neurasthenic insanities the individual is easily depressed and fear plays an important part as illustrated by the various phobias now known in the category of psychiatry. In fact the foundation of these phobias can usually be traced to some definite fright which served to establish the obsession. Sudden severe fright may be instrumental in bringing on an active delirium or where the delirium is already established the hallucinations and illusions may bring on a frightful condition, due to their terrifying nature.

A knowledge of the *presence or absence of hallucinations, illusions and delusions* is of considerable importance. In delirium, visual and aural hallucinations are marked, illusions may be quite noticeable but delusions, when present, are unsystematized in character. In melancholia, hallucinations of the special senses and various viscera are sometimes encountered while depressive self-accusatory delusions embodying the committal of the "unpardonable sin" are characteristic of this condition. In mania, on the other hand, hallucinations are rare, if they occur at all; illusions due to the rapidity with which impressions are registered in the cortex cerebri play the important role, while the delusions are non-systematized and expansive in nature. Paranoia hallucinatoria, as the name indicates, is characterized by the presence of hallucinations while paranoia simplex is just as much characterized by their absence, although in both forms delusions, systematized in character, are always present. In the neurasthenic insanities there is an absence of hallucinations and illusions, but sometimes false ideas based on visceral sensations may be present.

*Consciousness* may or may not be affected in the various insanities. In delirium, confusion and stupor there is generally mental clouding as indicated by disorientation as to time, place and oft-times identity. In the manic-depressive group and in the neurasthenic group both consciousness and lucidity are preserved while in dementia praecox there may be no disturbance of consciousness until the affection is well advanced or it may even remain unaffected throughout the course of the disease. Paranoiacs are cognizant of their surroundings but dement



usually show considerable disturbance in the field of consciousness.

*Memory* of the attack of insanity also varies among the different groups. In delirium and stupor, memory is practically abolished while in confusion, particularly of the simple type, the individual may have slight recollection of his condition. In the manic-depressive group we find in the melancholiac an apparent weakness or sluggishness of memory which is due to a mental inertia, the so-called psychic retardation, rather than to any quantitative loss. In mania, particularly in the hypomanic form, we find not infrequently hypermnesia is present and that the patient is able to recite detail after detail of occurrences which took place during the attack. In dementia praecox, memory is usually undisturbed until the disease is well advanced and in paranoia there is usually little if any disturbance until the terminal stage is reached. There is no disturbance of memory in the neurasthenic group, but in dementia we would naturally expect to find some deficiency of memory present, ranging from a slight loss to a total loss. One of the characteristic signs of senile dementia, it will be recalled, is loss of memory for recent or newly acquired events, whereas the happenings of childhood and early life are readily recalled.

Unfortunately from a diagnostic standpoint, there are no special changes in the nervous system which are indicative of the nature of mental disorders. By this I mean to infer that the true or elemental insanities (with the possible exception of senile dementia) are not associated with nor dependent upon definite, demonstrable organic changes in the nervous system. However, we do know that dementia paralytica is an organic nervous disease and is associated with a somewhat definite pathology which gives rise to a train of *physical signs* somewhat various in nature. It is scarcely necessary for me to recall before this society the unequal and irregular pupils, the Argyll-Robertson phenomenon, the tremor of face, tongue and hands, the pre-articulate tremor of the lips, the crasement of the facial lines, the peculiar speech, the disturbance of coordination, the loss or exaggeration of the patella tendon reflex, the presence of an extensor toe phenomenon or the elicitation of the Kernig sign,—all

of which help go to make up the physical signs sometimes found accompanying this disease.

With this brief presentment of the clinical factors which are of more or less value in determining the diagnosis of mental disorders, I wish now to touch upon the more common forms of insanity between which the general practitioner may be called upon at any time to make a differential diagnosis. Delirium and mania are mental states accompanied by excitement. Delirium may occur at any age, while mania is most prone to occur during the third decade of life. Usually a history of an exciting cause such as toxemia, infection, fever, etc., will be obtained in delirium while in mania the absence of these and the presence of a bad neuropathic or psychopathic history, with possibly an entertainment of previous attacks of a similar nature, will, in a large per cent. of cases, be found. Hallucinations, illusions, unsystematized and fragmentary delusions are observed in delirium, while in mania illusions play the important role, hallucinations occurring only with great rarity and delusions, while non-systematized, are expensive in character. For instance, the delirious patient will start at times at imaginary or misinterpreted objects, appears frightened, may call out in answer to imaginary voices, is confused, incoherent, disorientated, while the maniacal patient is rarely hallucinatory but the over-activity of his mental processes produces a "flight of ideas" and his incoherence resulting from the same is more apparent than real. Again, the duration of the attack should readily dispel any doubt since delirium at its best is but a matter of days, while mania is a matter of months and may even become chronic. A differentiation between some of the depressed mental affections may at times be somewhat troublesome. For example, take the depressed states occurring in middle life, *i. e.*, involutional melancholia, depressive stage of paranoia, and the depressive form of paresis. In each of these conditions depression stands out as the one cardinal clinical factor, yet the melancholiac is introspective, self-accusatory, and possesses suicidal tendencies; the paranoiac looks without himself for an explanation of his trouble, is persecuted, his false beliefs are systematized and fixed and are placed on some individual or group of individuals foreign or external to him-

self, while the paretic presents evidence of a quantitative loss of mind, a probable luetic history with positive Wassermann reaction and characteristic physical signs. Dementia praecox may become confused with manic-depressive insanity inasmuch as both may occur at the same epoch of life and present elements of depression and expansion. The emotional state in dementia praecox, however, is much more in the background than it is in the manic-depressive group, for in the latter group the emotions really dominate the clinical picture. The course of the disease in dementia praecox is more irregular, there being no definite wave-like course of expansion or depression such as is present in manic-depressive insanity. Again, there is often times evidence of mental enfeeblement, silliness and childish conduct in praecox while such conditions are foreign to manic-depressive insanity. Imbecility and dementia, as before stated, possess in common a quantitative loss of mind, but in the former there has always been mental poverty while in the latter there has been a loss of something the individual formerly possessed. Here of course a careful history will be of great value in bringing out just such a point.

*Prognosis.* With this brief resume of the commoner forms of insanity, together with some of their differential points, let us now turn our attention to a consideration of the prognosis of these forms of mental disorder. It is scarcely necessary for me at this time to dwell on the influence which early recognition and better treatment of the insane has exerted on the prognosis of mental disorders. This I am sure the society well understands.

In members of the first group, we find that the prognosis is almost universally good, the exception being that of specific febrile delirium which is invariably fatal but fortunately is an extremely rare affection. Confusion and stupor also offer a good prognosis but the duration, unlike that of delirium which usually lasts from a few hours to several days, extends into weeks or months.

Manic-depressive insanity as ordinarily met with is characterized by a tendency to recovery without intellectual enfeeblement but there is also a tendency to recurrence. The depressive phase (melancholia) usually lasts from four to

six months or longer while the expansive phase or mania runs a somewhat shorter course. Involutional melancholia often lasts for a year or even longer. Circular insanity, or the alternating form, tends to recovery only when the disease occurs in early life but the prognosis in general is guarded, as it is not as favorable as that of either the depressive or expansive form alone. Any member of this group may become chronic and when chronicity is once established the disease is incurable.

The prognosis of the dementia praecox group is of course very guarded. In hebephrenia about eight, and in catatonia about twenty per cent. of the cases recover. Dementia paranoides is the least favorable of all since recovery is extremely rare. The majority of cases of praecox terminate in dementia or the disease may become arrested at any stage leaving a condition resembling imbecility.

Paranoia represents possibly the purest form of insanity known and as such offers a bad prognosis. The true paranoiac never recovers although he may present periods of remission or even intermission in the course of the disease.

The prognosis of the neurasthenic group depends upon the severity of the neurasthenic symptoms as well as upon the neuropathic background. Recovery may occur if the patient is taken in hand before the obsessions have gained much foothold, otherwise they are apt to become fixed and chronic.

Since dementia, whether primary, secondary or paretic, represents a quantitative loss of mind it offers, of course, a hopeless prognosis. In paresis the duration of life may vary from one and one-half to six years, the average length being between two and three years.

407 Equitable building.

#### ABSTRACT OF DISCUSSION.

Dr. J. W. Milligan, Michigan City, Ind.: I would simply like to ask the doctor if in his observation dementia praecox is increasing decidedly, or is it purely a matter of classification?

Dr. J. Cheston King, Atlanta, Ga.: The age at which paranoia is incipient varies, I think, much according to different authorities. Oppenheim's and Mendel's classifications differ to a great extent. I have on record now one case of paranoia that has gone as long as five years apparently cured. I have had numbers of cases that would react for six months to a year.



One case that I sent home apparently cured relapsed and was brought back in thirty days.

I have had one case of dementia praecox in a young man, perfectly developed from every standpoint, who apparently recovered, only to recede again in the course of about sixty days. A good surgeon, simply from the standpoint of research work, performed the operation of thyroidectomy on this patient. That was one and one-half years ago, and that young man today is perfectly well.

Dr. E. F. Leonard, Jacksonville, Ill.: According to some authorities there is no true paranoia. They all come to a paranoiac state. You may get it in manic-depressive, dementia praecox, etc. It depends on the kind of insanity the patient has when the paranoiac state exists, which determines whether the recovery will be slow or quick.

Dr. M. A. Bahr, Indianapolis, Ind.: I disagree with the last speaker, that there is no psychosis recognized as paranoia. He certainly must be mistaken, because paranoia is certainly a distinct entity, and it is in that condition that we have delusions. We have paranoiac symptoms, very many types, especially the manic-depressive. Also in the paranoiac type of dementia praecox. But the so-called chronic paranoia is certainly a distinct disease of its own.

As to whether paranoia is increasing or not, I would like to state that during the past few years we have had the largest increase in our group of paranoia patients—in the last year especially—five per cent. I do not think it is especially on the increase, but it is a matter of diagnosis.

Dr. G. H. Hill, Des Moines, Iowa: A pioneer alienist, after fifty years of experience in treating cases of mental derangement, declared that very few of them make a complete and permanent recovery, and I think that the longer alienists follow that line of work, and the more closely they follow the patients whom they have treated for an indefinite or long period of time, the more doubtful they are about complete and permanent cures from mental derangement which has continued for any considerable length of time. Cases of insanity may be compared somewhat to persons who recover from the use of morphin or from the use of alcohol. They may resume their duties and they may declare that they never felt better in their lives, and in a general way be regarded as normal. But how often morphin fiends relapse? We know how often alcoholic cases return to the use of a stimulant. And we know that if we will watch those cases for ten, twenty or thirty years, they are never completely cured, so that statistics are not very tenable in regard to the cure of almost any form of mental derangement. Dementia praecox, perhaps, is the best form to study, because it is very common, one-third of all insane in private or public institutions are cases of dementia praecox, and there is just as large a proportion of that kind of insanity outside of institutions as in, and yet no case makes a complete and perfect recovery. Men-

tally, they go lame throughout the rest of life, some only a little, but the majority will be so lame mentally that they will require natural or other guardians as long as they live.

Dr. H. C. R. Norriss, Enderlin, N. D.: There is a deplorable tendency among men to quote statistics. If these patients are declared cured and allowed to go out from the physicians' care, they will commit crimes, sexual and otherwise, that are a disgrace to the population.

Dr. J. W. Milligan, Michigan City, Ind.: I would like to say "amen" to that statement and to suggest that the value of statistics would be improved by age. If statistics were compiled after twenty years, they would not be so complimentary. Some years ago, in one of the Indiana hospitals for the insane we tried to establish a rule to never include in our reports the sane patient's recovery more than twice.

Dr. Charles J. Lewis, Chicago: Coming back to the paper on diagnosis, I would like to ask the doctor, when he stated that there were some conditions of brain disease that showed no physical evidence, if he intended us to understand him to say that there was no change in the cell bodies of the central cells where we have constitutional insanity, and where we have emotional states?

Dr. E. F. Leonard, Jacksonville, Ill.: I think there is a wrong idea prevailing of what is meant by the word cure. Insanity is like physical disease. If a man has rheumatism one year and he exposes himself to cold weather, he will get another attack; the same with pneumonia, tonsillitis, and pleurisy—they leave permanent changes. So in insanity.

Dr. H. C. R. Norriss, Enderlin, N. D.: I think he is cured, as in rheumatism, and you get it under control. It remains dormant, and under great stress it develops again. The maniac is the same, he has the disease, and with the slightest strain it comes back.

Dr. B. F. Williams, Lincoln, Neb.: With reference to cure, I think it is pretty generally conceded that any case of pure dementia praecox that manifests remissions of symptoms, if we will take the time to analyze the mental condition, will show a reduction of mental power.

Dr. A. E. Sterne, Indianapolis, Ind.: I don't believe there is any mental condition which lacks pathology of some form. To my mind, it is wrong to concede that the function of a nerve cell expresses itself abnormally, while the anatomic condition of that cell is normal. I have been moved to divide the psychoses into three large groups; one, in which the element of heredity seems to be prominently marked, and which savors strongly of that type which we call the paranoid, to which practically hysteria and manic-depressive belong, although the latter is probably an intermediary between the paranoid-hysteroid and the immediate succeeding group in which inflammatory conditions in the brain cell obtain. To the second

group belong a large number of acuter manifestations, which show themselves pathologically as an edematous, exudative or serous cellular inflammatory process. Upon the degree to which this process has gone depends the outcome. Recovery may occur just as from any other inflammatory process, or secondary degeneration take place; in other words, if the vulnerable index of the cell has been surpassed, there follows a degenerative process, such as we see in the dementias and in dementia praecox. It makes little difference, I believe, just what the etiology in a large number of these cases may be, the cell swells whenever it is in the presence of media from which it can take fluids. The experimental work of Fisher shows that cells in the presence of acidosis swell and take water from any medium from which it can be obtained. Brain cells can always take water.

As regards prognosis and diagnosis. I think we may well lose sight of the etiological factor partially and rely more especially upon the degree to which the pathology has gone, to which degeneration has taken place. In those cases in which manifest degeneration has shown itself—and it is not usually difficult to determine, clinically, whether cases manifest evidences of cellular degeneration—I think the prognosis is very, very grave, but in the inflammatory processes, when the affected are treated as sick people, as distinct patients, the prognosis is not so bad.

Dr. A. M. Corwin, Chicago: This whole question of normal and pathological psychology which this conference is taking up is one in which the general practitioner and specialists of all branches should be better informed. We laryngologists have to see fewer insane people than anybody else. People in general are sane, from the very fact that they consult us. But we do see occasional neurologic defectives. Within two weeks, for instance, one of my own patients had an epileptic seizure during an operation on the sinuses, under cocaine. Another case, a young lady, showed very decided mental aberration when brought for examination for something along my line. She was referred to a neurologist, and became more acutely disturbed, but was turned over to him right away as one who understood this proposition intimately. Under his observation she developed acute mania, possibly as the result of consulting a laryngologist.

Dr. Throckmorton (closing the discussion): I want to first thank the conference for the very kind manner in which they have received this communication. The fact of the matter is my experience has been quite meager as compared with others here. I wrote this paper with the idea that perhaps some few seeds in it might not fall by the wayside and would bring forth some results, and that members of the general profession might become interested in this work.

I believe that dementia praecox as a group of mental disorder perhaps has not increased, but that we are better able to grasp the different forms and put them into their proper category.

The question as to the duration of paranoia, I would answer by saying that I have had no personal experience with a case which has extended over five years, but that there is no question, according to authorities, but what we do have periods of intermission as well as remission in this disorder. Once the disease is established, however, its course is chronic. I think the attitude taken that the cure of mental disorders is an unknown quantity is a little broad. It seems to me that it would narrow us down considerably to tell the profession that there is no cure for mental disorders. Statistics prove many things, the same as the devil can quote Scripture to his own end, and of course while it may be true that there is a tendency on the part of those compiling statistics to prove or disprove this or that fact, nevertheless, it seems to me that we should look on the subject of recovery and cure in some mental affections in a broader sense than that which has been voiced.

As to the question, whether or not there are definite organic changes in any of these insanities, I fully agree with Dr. Sterne that there must be some pathology back of mental disorders, just as in any other abnormal condition. Naturally, the question comes up. Can we demonstrate these changes—tell definitely what they are? One point which I hope to bring out in the paper was that apparently we do not have any definite pathologic changes on which we can say "this is a case of manic-depressive insanity, this is a case of dementia praecox"—as we are now able to do in some cases of paresis. And we have reason to believe, in the light of certain investigations, that paresis in the vast majority, if not all, of the cases is due to the spirochaeta pallida, as has been shown by the recent work of Noguchi and Moore.

I do not know whether I have covered all of the questions brought up, or whether I have explained them to the satisfaction of those asking the same. If I have overlooked any, it has been unintentional.

### DEPRESSED STATES APPARENTLY NOT IN THE MANIC DEPRESSIVE GROUP.\*

S. N. CLARK, M. D.

Physician Kankakee State Hospital,

KANKAKEE, ILLINOIS.

It is the intent of this paper to refer briefly to three depressed conditions, viz., simple or undifferentiated depression, symptomatic depression and depressive hallucinosis. These are found under the general heading, "Disorders of Mental Adjustment," in the classification of mental disorders in use among the Illinois State Hospitals. The literature in regard to the conditions under consideration is extremely meager,

\*Read at a meeting of alienists and neurologists, held under the auspices of the Chicago Medical Society, June 23-25, 1913.



and for that reason this paper will, for the most part, be confined to observations of such cases, (so diagnosed) at the Kankakee State Hospital. From our records, one may judge that the above terms refer to symptom complexes or disease pictures rather than to any definite types or groups.

It is to be understood that in the two cases presented in this history, an analysis is not attempted. The only object is to illustrate a symptom complex.

Simple or undifferentiated depression is a condition characterized by a depressed mood which develops upon a more or less adequate basis. As an example an abstract of such a case may be given:

J. A. B., aged 28 years, female and single. Family history was bad; the father was addicted to the use of alcohol; the mother died a suicide at 53, and one sister was insane. The patient progressed well in school and afterwards worked diligently, but was said to have always been "of a sad disposition." There had been no previous attacks. She started to worry when her sister was admitted to a hospital for the insane in March 1910, but apparently recovered in a few days. After her mother's death in May, 1910, she became quite depressed, believed that she was responsible for her mother's death and her sister's illness because she had not taken care of them. Worried because she had gone beyond her means financially, etc. These ideas of self-accusation finally led to several attempts to commit suicide. Although it was stated that she tried to choke herself, took iodine and turned on the gas with suicidal intent, the record does not state that she was at any time in a dangerous condition. When she was asked later if she had really wanted to kill herself, she replied, "Why, no; I didn't want to die." . . . "I tied a handkerchief around my neck. I had some iodine and just touched it to my lips." From this it would seem that her attempts were of an abortive character, suggesting a neurasthenoid reaction.

She was sent to the insane hospital in September, 1910. She was found to be correctly oriented and showed no intellectual defects. There were no hallucinations and no delusions other than those given above. She said she came to the hospital because "I kept thinking if I stayed at home with my mother she wouldn't have died and I think I was the cause of the trouble for a long time. I think I went beyond my means in buying things. I kept thinking I was doing things wrong. We broke up housekeeping and I thought if I had stayed it would have been better. Then I was administratrix for the will. . . . I don't know; I just kept thinking and thinking all the time. I kept saying I wanted to die and kill myself."

The patient was clearly depressed and tears were

noticed in her eyes much of the time. There was no evidence of retardation. She talked readily and moved about with about average rapidity. Interest was normal. While in the hospital she gradually improved and was paroled December, 1910, at which time she seemed normal, except for the fact that she was very slightly depressed once in a while. She was discharged as recovered June 18, 1911. The fact that she had no previous attacks, that she developed the depression after her sister was sent to an insane hospital and her mother committed suicide and that there were no evidences of retardation, are special features to be considered in the differentiation between this condition and the depressed phase of manic depressive insanity. No one feature would remove the possibility of its being manic depressive.

The cases of simple depression present histories similar to the one given here, *i. e.*, they develop a depression, often on a very adequate basis, accompanied, perhaps, by self-accusatory ideas or feeling of hopelessness, but lacking those symptoms most apt to lead to the general recognition of the fact that an abnormal state exists until, perhaps, an attempt at self-destruction is made.

Of the total number admitted to Kankakee these cases constitute only about 1.5 per cent. This is, however, no indication of their relative importance since there are probably many more cases which are never committed to an insane hospital. For this reason the type must be of great interest to the general practitioner and the laity, especially since in such cases suicide is a possibility. It is not easy to draw a dividing line between depression arising on such a basis and that which may be looked upon as normal. The death of a friend or relative, financial reverses, etc., are usually accompanied by more or less sadness, and many people have occasional days when, for no apparent reason, except, perhaps, a slight digestive disturbance, etc., a fit of the blues takes possession of them and nothing seems quite right. It is only when such attack of depression is deeper and more prolonged than would be expected in a person placed under such circumstances that they may be considered ill mentally. For such cases hospital treatment is of great benefit, as it is there that they can best be placed under conditions most favorable for restoration to the normal. Although the danger from suicide can never be entirely obviated, it is reduced to a minimum in an institution, and it is to be hoped that the prejudice which now

exists against entering a State hospital will in the future disappear.

Symptomatic depression is a term applied to those cases in which a feeling of ill-being or depression occurs as a symptom in the course of a somatic disease such as cardiac, renal, etc.

The "instructions for the collection of statistical data" in use in the State of New York characterizes the condition as a depression closely associated with some physical ailment which more or less, naturally, predisposes to despondency (heart disease, gastric disorders, malignant growth, etc.). Fluctuations occur in the depression depending largely on the severity of the physical symptoms or degree of discomfort or pain which the patient suffers.

Henry Head, in an article on "Certain Mental Changes that Accompany Visceral Diseases," published in "Brain" in 1901, found that depression occurred not infrequently in visceral diseases. He states that he does not "suppose that this condition (*i. e.*, the depression) is peculiar to those suffering from visceral disease. It can make its appearance as a primary mental manifestation, and in association with organic or functional diseases of the nervous system."

Such cases were excluded from consideration in his article. His object was, using his own words again "To describe the conditions under which this mental state may make its appearance in sane persons who suffer from visceral disease." He does not consider the condition to be simply the mental distress in those who are forced to suffer pain and to worry about their inability to care for their families, etc. In fact the latter state "differs markedly" from the condition under discussion.

He states that a quite constant feature in the cases showing such changes, is reflected visceral pain. The depression he describes in brief as follows: "It comes on in paroxysms without reason and forces the patient to seek some solitary place, because he wishes to be alone." "To be spoken to only deepens his misery," and he may "burst into tears when spoken to kindly." Music makes the sufferer more miserable. He may be "haunted by an idea of impending ill," and in a few cases suicide may be considered, although but rarely, if ever, actually accomplished. The attack is not usually continuous

throughout many days, but ebbs and flows in attacks of varying duration.

(The above is abstracted from Dr. Head's masterly article without any attempt to give a complete summary of it.)

Among the cases numbering, approximately, 3730, admitted to Kankakee in the last 51¼ years, there have been three cases classified as symptomatic depression and these were not altogether typical. Probably the small number is due to such cases being cared for in the general hospitals. It is likely that such a condition would be very difficult to recognize if it developed in one already suffering from a frank psychosis as most institutional cases do.

Depressive hallucinosis, quoting again from the "Instructions" for collection of statistical data in New York, are "Depressions generally of acute onset, in which hallucinations (usually auditory), dominate the scene, the sensorium remaining clear, the mood being one of anxiety or fear." Toxic or infective-exhaustive features are not demonstrable as etiologic factors. The picture is like that of acute alcoholic hallucinosis without clouding, but in which no such toxic factor can be demonstrated. At Kankakee there have been six cases so classified when first admitted owing to the resemblance of the picture then presented to that described above. None of these exactly fitted the characteristics of the class, however, and subsequent development has thrown more doubt on the first classification.

One case may be selected as an illustration, as it more nearly than the others approached the depressive hallucinosis symptom complex.

J. A., aged 26 years, a female and single. The mother was extremely nervous and one cousin on the maternal side had suffered from "nervous prostration." The patient acquired knowledge rapidly, but was self-conscious and rather solitary in habits. This was especially noticeable after puberty which occurred at 11 years. At 21, after having studied very hard, she was disappointed in not receiving a scholarship which she thought should have been given her. Following this she "broke down and had brain fever." The symptoms of this illness were not obtained, but it apparently lasted about a year, and several months after its onset she tried to commit suicide. She seemed to recover and worked for two years, until the onset of the illness on account of which she was sent to Kankakee. The disorder began abruptly. The patient wept; "turned against everybody," said she was losing her mind, and slept very little.



On January 11, 1909, one week after alleged onset, she was admitted to Kankakee. On examination it was found that she was correctly oriented, except that she could not give the exact day of the month. This she explained by saying that she had not kept track of the time since the voices began to bother her. The memory was good and she had a grasp of the situation. The chief feature appeared to be auditory hallucinations and it seemed to be these which dominated the actions and mood. She stated that people talked against her, although she tried not to pay attention to them, as "she knew she was honorable." The voices prevented her from paying attention to the tests. "People just make fun of me, laugh at me, just too perfectly hateful for anything." She added that she heard the voices most of the time. Whistles told her things which she would not repeat and when asked her reason for her attempt at suicide before admission, she said it was because she was depressed, "she could not stand it to listen to the voices when they were talking against her character." She was anxious, depressed and suspicious, asked the nurses to give her poison, as she did not care to live, peered into different rooms, appeared to be listening to something and became agitated at the least noise. She believed people read her thoughts and "were spying on her." When the nurses looked over some letters she said they were trying to get evidence against her. At times she answered slowly and at other times quickly. She was restless rather than retarded in movements. Patient said that the voices confused her and things did not seem quite natural.

There was a period lasting two or three weeks, beginning three or four days after she was admitted, during which she said she was less depressed and denied hearing voices. Except for this she remained suspicious, believed she was made fun of and was noisy at times for several months. She gradually improved and was paroled August 22, about seven months after she entered the hospital. Some time within two and one-half months after she left a letter was received saying she was getting along well and was working.

It is stated that during her residence in the hospital she was not always depressed, but rather perplexed and that she was impulsive, violent and unmanageable. This history is given especially on account of the picture presented when first admitted.

In this case there were said to have been two attacks between which she was apparently normal, suggesting an individual type of reaction.

The last attack seemed at first characterized by auditory hallucinations of a distressing character, which might be thought to be the basis of her mood, which was depressed. There was a

lack of clouding, all of which calls to mind depressive hallucinosis. When some of the other features are added, however, a tendency to see a special significance in things as shown by her reading a meaning in the whistles, ideas of reference, thinking the nurses were spying on her and were trying to find evidence against her when looking over their letters, impulsive, violent behavior, a feeling of perplexity and a mood not always depressed, one must consider a dementia praecox type of reaction. The improvement might be interpreted as a remission. It is to be greatly regretted that the exact content of the hallucinations in this case was not obtained.

Among the six cases which were called depressive hallucinosis, among the 3,700 odd admissions to Kankakee since March, 1908, the time when the present classification of cases was instituted, two are still patients in the institution, one of them having been here a little over four years and the other a little less than two and one-half years. They both show deterioration of a praecox type.

A third case after being here for four years and showing depression with vivid distressing hallucinations of a somatopsychic character, was transferred to Peoria.

A fourth case died one year and three months after admission of a tubercular pulmonary abscess. Among other features this patient showed queer reactions and had ideas of reference.

A fifth was admitted first in June, 1909, having had previous attacks eleven and three years ago respectively. It is said she was not entirely well between attacks. She complained of auditory hallucinations and at times seemed depressed. She has been paroled twice since her admission in 1909 and seemed to deteriorate in regard to her interests.

The sixth case is the one whose history is given above.

It is not the purpose of this paper to outline depressive hallucinosis but on the contrary to report the small number so classed at Kankakee and to call attention to the fact that they are not clear cases of the disorder. To my knowledge nothing has been published in regard to the condition and it is hoped this paper will call to mind of some of those present, cases they have had which may be true pictures of the conditions.

In closing I wish to thank Dr. H. D. Singer for kind assistance in the preparation of this paper.

#### ABSTRACT OF DISCUSSION

Dr. M. A. Bahr, Indianapolis: The papers that have just been presented to us go to show that the more we know of these conditions the more faulty we will find our classification of insanity. It shows how complex these cases are and how complicated and difficult it is oftentimes to classify some of these patients. It often makes us think that our psychiatric nomenclature is far from what it should be. We have a very large number of unclassified cases—patients not classified for years. One point, however, in regard to the depressed type of the manic-depressive psychoses is the infrequency of hallucinations occurring in these conditions. In my experience in less than ten per cent of the cases do we find hallucinations in this particular type of insanity. When present in these cases they are generally found very late in the disease and the psychosis is invariably founded upon a severe hereditary predisposition. In these cases it generally deals with the so-called publicity of thought. The patients complain that others hear their thoughts and they themselves can hear every thought repeated which occurs to them. The prognosis of these hallucinatory depressed cases is exceedingly bad and their transition into paranoia is not infrequent.

These cases of melancholia to which are super-added compulsory concepts are much more frequent than is generally supposed. These patients generally complain that many compulsive concepts force themselves upon them in the form of hallucinations.

Dr. Meyer Solomon, Chicago: One important thing I understand from the paper is that there is not any sharp dividing line between the normal and the abnormal, and in the same way there is no absolutely sharp dividing line between a manic-depressive insanity and dementia præcox, on the one hand, and, on the other hand, between hysteria and dementia præcox. We have many instances in which we are unable to state absolutely whether a certain psychosis belongs to the manic-depressive group or dementia præcox and the dividing line is not absolute. In the same way the dividing line between hysteria and dementia præcox is not absolute.

Looked at from the biologic standpoint I consider dementia præcox a condition in which we have a greater degree of biologic dissolution than we have in hysteria. We have many forms which seem to be stationary for years and in the end they may develop dementia. So in these particular forms, therefore, we have a condition which is practically on the border line between dementia præcox, on the one hand, and hysteria, on the other. It is important, therefore, to remember that though one may name

it dementia præcox, another manic-depressive insanity, we have very many other reactions in individuals who are on the border line and partake of the qualities of both manic-depressive and dementia præcox.

Dr. W. F. Lorenz, Mendota, Wis.: It occurs to me that the primary constitution of the individual affects the psychosis of the disturbance that he ultimately develops. This holds good in many diseases as well as in the feeble minded. The point I tried to bring out in my paper was that in the alcoholic insanities the defect of constitution seems to dispose the individual to the psychosis, and as a consequence the study of heredity will help us. The efforts of the eugenist's work, normal as well as abnormal, in trying to establish characters that are transmitted, recessive or dominant, will ultimately place us in a position where we can foretell from the probable constitution whether the individual will develop psychosis or feeble mindedness. That was brought out by Dr. Singer, and, in fact, in almost every communication offered at this meeting. Dr. Bahr's paper this morning showed the effect of syphilis in the ancestry upon the constitution of the progeny, and this bears upon the same subject. The constitutional makeup is the phase that bears investigation and it might possibly elucidate the entire psychology.

Dr. Singer: Dr. Lorenz has emphasized what I think is the chief point. I do think that when we say that there is a great difference between the manic-depressive constitution and the constitution of dementia præcox it is a fact. It seems to me there is a hard and sharp line between the two. Although the two conditions seem different and offer us an explanation for some of the analogous cases which some of us group with manic-depressive cases and some as dementia præcox, the same mixture, as it were, of constitutional makeup is really accountable for the so-called mixed types and the typical forms.

Dr. Clark (closing the discussion): There is nothing I want to add, except to say that calling a case one of simple depression, symptomatic depression or depressive hallucinosis, simply refers to the symptom-complex, the picture, and not to the underlying cause.

#### THE SPIROCHAETA PALLIDA DEMONSTRATED IN SMEARS FROM A PARETIC BRAIN BY GIEMSA'S STAIN.\*

GEORGE W. BROCK, M. D.,  
Physician, Peoria State Hospital.

PEORIA, ILL.

The spirochaeta pallida has been found in paretic brains both postmortem and in the living. They are found in greatest numbers in the gray

\*Read before the Chicago Medical Society, Dec. 3, 1913.



matter, the most fruitful region being the motor area, although they have been found in other regions, as the nerve fibre zones.

The method giving the highest percentage of positive findings being the Noguchi modification of Levaditi's method, in which sections, after treatment with a special fixative, are stained with nitrate of silver, the whole technic covering a period of over three weeks. Marie has demonstrated the spirochaeta from parietic brains both by the India ink method of Burri and the Fontana Tribondeau method. Forster and Tomaszewski were the first to find the living spirochaeta in the brain substance of living parietics. In their first twenty cases the organism was found in six cases using dark field illumination. The latter method is of value only in the living, or in very fresh brains.

Case Report: The patient, R. C., a white male, on admission to the Peoria State Hospital, October 21, 1911, was 33 years of age, with a history of syphilis ten years before and mental symptoms for the past eighteen months. The mental symptoms were of the dementing type, and the physical findings characteristic. Lumbar puncture gave the following result: Cerebro-spinal fluid clear, pressure slightly increased, cell count 60 per CMM. Nonne-Apelt and Noguchi butyric acid tests positive, Fehling's solution reduced, Wassermann positive in both spinal fluid and blood serum. Lumbar puncture two years later gave a cell count of 30 per CMM. with all chemical tests positive, the maximum reaction with the Lange gold-sol test being in dilutions of 1/40 and 1/80, complete reduction. Wassermann positive.

Death occurred February 24, 1914. For the three preceding days the temperature reached 105° F. daily, running up to 107° F. one hour before death.

At autopsy the brain weighed 40½ ounces, the decrease in weight being due to wasting of the convolutions, contingent upon which was a marked increase in the amount of cerebro-spinal fluid present.

The technic was that as ordinarily used in examining syphilitic material from various portions of the body. The arachnoid and pia mater were snipped off with sterile scissors and tissue forceps. Portions of the cortex from the gyrus frontalis and gyrus rectus were scraped off with a paltinum loop and smears made on slides. Proceed as follows: Fix in absolute alcohol one hour. Wash in distilled water, stain in Giemsa 24 hours. The Giemsa stain is diluted immediately before staining in the proportions of one drop of stain to one CC of distilled water). To each 10 CC of the solution used one drop of a 1 per cent. solution of potassium carbonate is added to intensify the stain. Wash, dry and mount in balsam.

The patient was confined in the hospital three years and ten months, the whole course of the disease being

rather prolonged, covering five years and four months.

The spirochaeta has been found most commonly in brains of patients in which the disease has run a rapid course.

The value of the smear and Giemsa stain method is its simple and rapid technic, enabling one to make a number of smears from various portions of the brain, stain and examine, without the necessity of making sections, or the use of apparatus not found in the average physician's office.

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#### NORTHWESTERN UNIVERSITY ALUMNI REUNION.

To be held during meeting of the Illinois Medical Society at Decatur, Ill. Luncheon will be served at the Decatur Club rooms on May 20, 1914, at 12:30 p. m., \$1.00 per plate. All alumni of Northwestern University are urged to be present.

OTIS HARDY MACLAY, President.

ARTHUR B. EUSTACE, Secretary.

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This one is vouched for by one who was there: A well known gynecologist of New York, who shall here be nameless, was doing a complicated perineorrhaphy at his clinic, when the patient, who had been doing badly under the anesthetic, suddenly required a tracheotomy. The gynecologist stopped his work and attempted the tracheal operation. He was soon at a loss as to how to proceed and a laryngologist across the hall was hurriedly sent for. In the hushed stillness a long Texan on the top row drawled out, "Lost, by Gad! and not three feet away from home." —*From the Williamson County Physician.*

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This didn't happen in Johnston City: The doctor had just finished stitching up the injured hand. He was quite well pleased with his job, for it had been a much damaged hand. The patient looked at it carefully and said: "Doc, do you think that when this heals that I will be able to play the piano?" "There is no reason why you should not," answered the doctor, "if everything goes well." "Then, doctor, you are a wonder, for I never could before." —*From the Williamson County Physician.*

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The early fly's the one to swat  
It comes before the weather's hot,  
And sits around and files its legs,  
And lays at least ten million eggs,  
And every egg will bring a fly,  
To drive us crazy by and by.

—Walt Mason.

# ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society,  
under the direction of the Publication Committee of the Council.

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MAY, 1914.

## Editorials

### ANNUAL MEETING OF THE STATE SOCIETY AT DECATUR, MAY 19-21.

The coming meeting gives promise of being one of the most successful meetings ever held by the State Society. The scientific program as printed in this issue is replete with articles that are of interest to every physician in the State. That any one attending the meeting will be repaid four-fold for the time and energy spent goes without saying.

The local committee has made preparation to entertain any number of members and their families that may attend.

Decatur has splendid hotel facilities, but in addition the local committee has made arrangements by which members who desire may be placed with private families and entertained in the best homes of the city.

Ample provision has been made for the ladies and all will find that the entertainments planned will allow no regrets.

The officers of the society are planning for a meeting of not less than 1,000 members and it is hoped that each member will strive to be counted present.

Come and be glad with us.

### EARLY DIAGNOSIS OF TUBERCULOSIS.

In delivering the Bradshaw lecture on the "Diagnosis and Treatment of Incipient Pulmonary Tuberculosis," before the Royal College of Physicians, London, some months ago, Dr. D. B. Lees said:

"The abolition of pulmonary tuberculosis is possible on two conditions and only on these conditions: First, that every practitioner shall learn how to detect the disease at its first appearance, long before any bacteriological evidence is available; and, secondly, that a method of treatment can be employed by the practitioner in the patient's own home, which will be simple, harmless, completely effective, and yet inexpensive."

The diagnosis of incipient tuberculosis is of very great importance to the patient suffering from this malady. It is of importance to the physician who does or should make the diagnosis, and it is also of very great importance to society, for, unless the diagnosis is made early, the conquest of the disease will have become a dream. It will always be impossible to control this infection unless the diagnosis of the individual cases is made very early.

A few years ago it was thought and taught that the microscope must be used, and that its use would insure the earlier diagnosis of pulmonary tuberculosis. That it did make the diagnosis earlier in many instances, is a fact. But that is insufficient. The diagnosis must be made early enough to give the patient an opportunity to live, and to give society an opportunity to protect itself from the spread of the infection.

We now know that the diagnosis should be made in most instances long before the tubercle bacillus may be demonstrated, and if not made before the germ is found, that there is already more or less destruction of tissue; that the patient is spreading infection or infectious material, and that the patient has not nearly so good a chance to live as he had before the lesion had progressed so far.

It still seems to be a fact that many physicians do not feel inclined to make a positive diagnosis of pulmonary tuberculosis until the bacillus may be demonstrated in the sputa—yet they will, without hesitation, make a diagnosis of tubercular joints, tubercular peritonitis, tubercular glands, or other tubercular lesions, without even



trying to discover the presence of the specific germ.

It is unfortunate, we think, that the general practitioner does not make the same positive diagnosis, and make it earlier in the pulmonary tuberculosis.

The diagnosis of tuberculosis other than pulmonary is made mostly as a surgical diagnosis, and in general these cases are treated mostly as surgical cases.

One cause of this condition, we think, is the little attention given to physical examination or physical diagnosis by our medical colleges.

That so many cases of pulmonary tuberculosis are not diagnosed until late is proof that the diagnosis is difficult, and it is interesting to note from the literature the various methods of making an early diagnosis as practiced by different authorities.

At the present time the Roentgen-ray enthusiast claims that in many cases the skiagraph shows a shadow, demonstrating the earliest infiltration. This has no doubt been true in many cases, but fails in many others.

During the last decade it was hoped that tuberculin could be used with certain diagnostic results.

That so many cases are not diagnosed positively by any one method, it stands that all measures should be used when possible. But in the great majority of instances, it is the general practitioner who must make the diagnosis of pulmonary tuberculosis, and must make it without other methods or equipment than those he possesses. This means that after taking recognition of such subjective and objective symptoms as he is able to obtain, he must rely greatly upon the signs of a physical examination of the chest.

Since the time of Laennec (1819) great stress has been laid upon auscultation as the principal diagnostic method. Too much value cannot well be given this method, but it must be remembered that there are cases of well established pulmonary tuberculosis which will not give a single auscultatory sign.

This being true, we must rely greatly upon the percussion note. In every case will percussion, if thoroughly practiced, give us information which we can get in no other way. Many textbooks tell us that percussion over the apex of the lung of incipient cases will give a dull note, in

comparison with the normal apex; that it is in the apex that the lesion begins. Following this dictum, the doctor auscultates and percusses more particularly the areas above the level of the clavicle. We wonder if this is not one source of frequent error. Dr. Lees, in the Bradshaw lecture, asks:

But at what part of the thorax may the practitioner hope to detect the earliest indications of an incipient pulmonary tuberculosis? He will naturally turn to the "apex" of the lung, and on consulting some of his authorities will be instructed to percuss above the clavicle to detect a disease which such authorities imagine to commence at the extreme summit of the lung and to advance steadily downwards. The progress of the disease has even been divided into "stages" in accordance with the distance downwards from the summit attained by the morbid process, the affection of the lower lobes being often ignored altogether in such classification. Yet it was pointed out more than 20 years ago, in a valuable paper by a distinguished fellow of this college, Sir James Kingston Fowler, that post-mortem examination of the precise site of the earliest tuberculous lesions of the lung shows that the tuberculous process does not begin in the summit of the lung, but at a spot about an inch and a half below the summit, from which the morbid process may extend backwards and also downwards. Sir Kingston Fowler showed that a second localization in the outer part of the upper lobe at the same horizontal level is also extremely common, and that a third early focus is very frequently present at about an inch and a half below the summit of the lower lobe on each side.

If the patient is in the recumbent position on a comfortable couch which supplies an adequate resistance, and at the same time allows of complete muscular relaxation, it is quite easy by careful percussion to detect dull areas in the first and second intercostal spaces which correspond to the statements made by Sir James Kingston Fowler, if it be remembered that a distance of an inch and a half in the collapsed lung of the post-mortem room will correspond to a distance of two inches or more in the air-containing lung during life. For the posterior aspect of the thorax the patient should be sitting erect with his back to the practitioner; he should place his hands on the anterior aspect of the opposite shoulders, should bend gently forwards and relax his muscles. Careful percussion should then be practiced over the inner and the outer parts of the suprascapular fossa on each side, and also over the posterior end of the spine of the scapula and the surrounding region. In a case of incipient pulmonary tuberculosis a dull area will be found in the inner part of the suprascapular fossa, quite close to the first and second dorsal vertebrae (a region normally resonant), which corresponds anteriorly to the dull area in the inner part of the first intercostal space. Similarly, a dull area (smaller in

size) will be found in the outer part of the supra-scapular fossa, which corresponds to a dull area in the outer part of the first intercostal space. Thirdly, a very definite dull area, as large as or even larger than the area first described, will be found in the upper part of the lower lobe at the extremity of the spine of the scapula.

There are, therefore, six dull areas to be detected in the upper part of the lungs in a case of incipient pulmonary tuberculosis, two in each upper lobe and one in each lower lobe. Over these dull areas the only auscultatory phenomenon in many cases is a defect in the air-entry. Even the deepest possible inspiratory effort on the part of the patient produces very little inspiratory sound at these localities, while in the lower part of the lungs the air-entry may be much more distinct. On careful auscultation one may sometimes detect a slight crepitant sound with inspiration or with expiration also; it may or may not vanish after the patient has coughed. Occasionally the inspiration will be slightly "wavy" in rhythm; occasionally the expiration will be slightly prolonged. At this stage of the disease there is rarely any increase in the conduction of voice-sounds.

The six dull areas above described may all be present and even of considerable size, while the supra-clavicular region, corresponding to the summit of the lung, may be still very fairly resonant, though the clavicle itself may yield a dull note in the positions corresponding to the dull areas below.

These six areas at the four apices are the most important and the most easily detected part of the morbid signs of an incipient pulmonary tuberculosis. They do not represent the complete picture—far from it. But they are sufficient for the diagnosis. They are, I believe, invariably present in all cases of early pulmonary tuberculosis, though in a small minority certain areas about the angle of the scapula may become unusually definite, especially if any pleurisy develops over them.

#### DR. C. ST. CLAIR DRAKE.

Gov. Dunne last month completed the reorganization of the State Board of Health by the appointment of Dr. C. St. Clair Drake as a member, and the members thereupon elected Dr. Drake secretary of the Board. The State is to be congratulated upon securing the services of a man of such thorough experience and training in the difficult field of Public Health. For nineteen years past Dr. Drake has been connected with the Health Department of Chicago, as assistant chief of the bureau of vital statistics since 1896, and as editor of the *Bulletin* since the death of Dr. Frank W. Reilly.

The *Bulletin* under Dr. Reilly was a recognized sanitary authority and was quoted by an

ever increasing circle of writers on public health and sanitary problems. Under Dr. Drake the *Bulletin* has become probably the most quoted of all city health publications. This is due very largely to Dr. Drake's mastery of sanitary data, to his peculiar facility of expression in epigrammatic English and to an artistic temperament which enables him to illustrate his subject with timely, original cartoons and posters. Other publications constantly reproduce his stories and cuts with or without credit, and it may truthfully be said that several reputations for sanitary acu-



DR. C. ST. CLAIR DRAKE.

men have been built up on material stolen from Dr. Drake.

One of his remarkable inventions is a device to show the necessity for ventilation, consisting of a doll house of two stories with dolls in each exhaling a thin vapor of smoke. In one room the windows are open and the air remains clear from the diffusion of the smoke, but in the room with closed windows the smoke becomes very dense. This model was shown at an exhibit of the Infant Welfare Society in the Coliseum. It has also been exhibited at numerous schools and settlements in Chicago and elsewhere, and when explained in the language of the beholders never fails to carry its lesson into the homes where it



is most needed. Everywhere it has been the center of an admiring throng. This model has been reproduced by several state boards of health and by the Canadian government, and has been the leading attraction of several sanitary train exhibitions. The doctor has invented several other models, including one that shows the high mortality of infants.

As evidence of his many sided accomplishments he has written scenarios for moving pictures which impress other sanitary facts more strongly than any text. One of these, called "Summer Babies," illustrates the care given by trained nurses to the infants in hot weather. Another film, the "Error of Omission," shows the difficulties and embarrassments a person may undergo if his birth is not legally recorded. These films have been run in moving picture theaters all over the country.

Dr. Drake's seasonal warnings, rewritten year after year with ever novel embellishments, moved one of the Chicago papers to dub him the "Paul Revere" of the Health Department.

He will be sadly missed in the Chicago Department of Health, but as citizens of the state we may all rejoice that his services receive merited recognition and that we of Chicago will still share in their benefits. Possibly some day Chicago will become wise enough to offer inducements that will keep its men of marked talent in the service of the city.

Socially, Dr. Drake has been very prominent in club circles, and has served as director and president of the Town and Country Club, to which he has devoted his great ability as an organizer of unique entertainments. On one occasion the club presented the doctor with a fine diamond ring in appreciation of his services. Both Doctor and Mrs. Drake will be greatly missed by their many Chicago friends.

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#### CONSERVATIVE MEDICINE.

In no other field of human endeavor is conservatism more necessary than in the treatment of the sick; here the very life of the individual patient may depend upon a proper interpretation of the signs and symptoms, and a proper application of the suitable remedy. No proposition is more generally accepted as a truth.

It may be stated as a truism, also, that diag-

nosis is the first requisite to a proper treatment of the sick, and it is not too much to say that this does not mean simply giving a name to the disease; it must also take into account the pathology; the derangement of function and the consequent results upon the entire system. These statements of fact are so well recognized that no argument is necessary to insure their general acceptance.

The feature of this subject, however, which may meet with some opposition, and which is at the same time of the highest importance, and which furnished the inspiration for this article, is that of therapeutics as applied to the actual treatment of those who may fall into the hands of the reputable physician.

It takes but a brief retrospect in the field of materia medica to note that much disappointment has resulted from a too-ready acceptance of early statements as to the curative powers of therapeutic agents, leading, in some instances, to a wholesale condemnation of actually valuable substances, and resulting in delays in establishing them in their own proper sphere. Reference to tuberculin, and its temporary retirement in disgrace after its first sensational introduction, will readily show the necessity for a more conservative reception of any new therapeutic agent, and its thorough "trying-out" before its offer to the profession at large as a "cure." Here we found that it was not the fault of the remedy that the results were disastrous, but the ultra-radicalism which could not wait for a more definite understanding of the powers and properties of this very valuable agent. The harm resulting from this misconception of the tuberculins is felt today and might have been largely avoided by a more conservative acceptance of the remedy.

Prior to the discovery of the tuberculins the "Brown-Sequard Elixir" had its vogue for a time, and its use in many cases with no benefit, caused it to fall into the "discard"; and, though the "elixir" may have been without merit the principle upon which it was based is now proving valuable in therapy.

Another valuable remedial agent, and one comparatively new, is "salvarsan," which, while not now generally recognized as the absolute "specific" for all forms of syphilis, still maintains its position among the most valuable of our anti-syphilitic remedies. That it did not meet the

claims first made in its favor is a matter of profound regret, but is no more than might have been reasonably anticipated. Its early introduction to the profession by its originator, and its exploitation by the lay press, placed the remedy in a false position. It was believed to be a "positive specific" when it is nothing more than one of the standard therapeutic agents for the treatment of this disease.

The feature of the "salvarsan case," as well as of that of "tuberculin," from which the greatest harm must result, is that it is used by unscrupulous quacks as a means of imposing upon the ignorant. The great publicity given the product in the beginning became a source of the greatest danger to the ignorant layman who read everything published and demanded the treatment; often when the presence of syphilis was not considered positive, and because in the presence of the "doubt," and the alleged "safety" of the drug, the patient felt that his own safety lay in taking the treatment. True, in some cases the peace of mind afforded justified the procedure, but this is by no means true of all cases. There can be no question but that thousands of "salvarsan" injections have been given which were not only needless, but were positively harmful. Even at this late day this remedy is still "on trial," and its actual standing as an antisypilitic is yet unsettled. Certainly the world would not have suffered severely by a little more delay in its introduction, and it is equally certain that many persons would have been far better off both financially and physically had its commercial exploitation been tempered with more moderation in statements concerning its value, and more honesty concerning its dangers.

Radium has been in the "limelight" recently, and its supposed therapeutic powers have been the disastrous results which are the invariable through the press will be largely responsible for published far and wide both in the lay press and in medical journals, but its actual potentialities as a cancer cure are by no means definitely established, though it is admittedly of some value in certain forms of cancer. That it is a certain "cure" is not believed by its most sanguine advocates, and its position as a therapeutic agent can not be known for some time, probably not for years, and in the meantime the frauds perpe-

trated in its name will be so numerous, and their baneful effects so far-reaching that the damage will more than offset the good derived from its legitimate use. The credulity which transforms the most simple substances into something bordering on the supernatural may well grasp at the more tangible, but not less marvelous substance called "radium," and set its powers and properties far beyond the limits which scientific research will finally establish. Even now we see evidence of attempts to take advantage of this credulity, and note the many forms of radioactive substances offered as remedial agents. Mineral waters, practically void of medicinal properties, and valuable chiefly because of the natural environment of the springs from whence they come, are claimed to possess "radium" in solution, and hence to have boundless therapeutic properties. Such "springs" will count their "victims" by the thousands before the truth will be known. Waters said to be "charged" with radium will be sold at fabulous prices, and the use of them will result in delays that are dangerous.

Here, again, the premature publicity given sequence when confidence in any special therapeutic agent has been misplaced. Here, also the public will demand "radium" treatment in cases of pronounced cancer, as well as in many other forms of malignant and non-malignant tumor, and the doctor who looks upon a patient as a "valuable asset" only, will yield to the importunity and supply him with the "so-called" "radio-active" water. In such cases the honest physician will be found to be an "old foggy" because he does not approve of the "radium treatment." The class of cancer patients in which operation might give some measure of relief will practically all suffer if subjected to the delusions of this new therapy.

Progress in medicine is to be commended in the highest degree, and especially do we need to add to our therapeutic armamentarium, and to this end a careful system of research must be maintained, but we should still be slow to adopt new therapeutic agents of doubtful and uncertain properties.

No statement could be more fitting for application to this subject than the saying of the apostle who said, "Prove all things and hold fast that which is good." And, by the same token,



there are now a large number of articles in our materia medica which have been proven to be "good," and until we know of something better we may safely employ them, rather than take the word of the commercialist, or the enthusiast, that we have "positive cures" for incurable diseases.

### WHAT'S THE MATTER WITH MINNESOTA?

Last month we called attention to the efforts being made by the druggists to secure the amendment of the Harrison National Antinarcotic Bill in such a way as to promote their own selfish interests at our expense. While these amendments were introduced by Senator Knute Nelson of Minnesota, there is no longer any question as to their authorship. In a letter to a physician, published in the official *Bulletin of the Chicago Medical Society*, Senator Nelson says: "I offered these amendments at the request of Mr. C. H. Huhn, of Minneapolis, secretary of the Minnesota Retail Druggists' Association." Mr. Huhn is also a member of the executive committee of the National Association of Retail Druggists, and the official organ of that body has not taken the pains to deny the fact, now generally recognized and openly admitted by prominent members, that it is the purpose of this organization to force the passage of these or similar amendments intended to embarrass and harass the physician.

Illinois recognizes the situation and has taken action. The Chicago Medical Society has passed strong resolutions, which were published in this journal last month. The Legislation Committee of the Illinois State Medical Society has placed the situation before the officers of the county societies and suggested immediate action. If there is to be a fight on this matter, or any other affecting the interests of the thousands of Illinois physicians and the people whom they serve, we are ready for it.

Indiana has also fallen into line. Note the following from the *Journal of the Indiana State Medical Association* for April:

"A physician who is now a druggist and a member of various pharmaceutical associations says that he knows positively that it is the intention of the influential men in the state and national pharmaceutical associations to bring about

legislation which will compel universal prescription writing. If this is true, the sooner the rank and file of the medical profession awakens to the necessity of concerted action to preserve their rights, the better it will be for them."

Now, what's the matter with Minnesota? Thus far we have seen no word of protest from the medical journals of that state. Senator Nelson is supposed to represent the physicians of Minnesota as well as the druggists of Minnesota. Some one authorized to speak for the medical profession of his state should make it plain to him that efforts of this kind on the part of the druggists are exceedingly offensive to every physician. We believe that when Senator Nelson fully understands the situation he will see the folly of attempting to force an issue of this character. The medical profession wants clean antinarcotic legislation, and has unanimously supported the Harrison bill, but it is prepared to defend its own rights. Minnesota physicians should tell Senator Nelson what they think of his amendments.

California, Kansas, Ohio, Maine and Nevada, too, should wake up. In each of these states drastic laws curtailing the rights of physicians have already been enacted. The viciousness of some of this legislation is well illustrated in Nevada, where under the law a physician unless he is registered as a pharmacist cannot administer medicine hypodermically. Some of the proposed legislation would prohibit veterinary surgeons administering needed medicines. Also it would prevent dentists administering remedies for relieving tooth ache.

We are persuaded that the better element among the pharmacists will refuse to be led by agitators, posing as leaders, into a policy which is sure to be disastrous to them. These men must realize that the pharmaceutical profession has faults enough of its own. Let them devote their undivided and earnest attention to those faults and be sure that they are all corrected before they attempt to legislate for physicians.

Every physician in Illinois should file a protest against the passage of the Nelson amendments with his congressman as well as with Senators Lewis and Sherman. Also, he should be prepared to fight any other offensive legislation of this character that may appear in Congress or in his state legislature.

## ILLINOIS STATE MEDICAL SOCIETY.

CHARLES J. WHALEN, PRESIDENT, CHICAGO.

THE SIXTY-FOURTH ANNUAL MEETING  
OF THE ILLINOIS STATE MEDICAL  
SOCIETY, DECATUR, MAY 19 TO  
21, 1914.

## FIRST DAY—TUESDAY—AFTERNOON.

2:00—Surgical Clinics of the Section on Eye, Ear, Nose and Throat, at the St. Mary's Hospital.

2:30—Call to order of the Society in General Session by the president, Chas. J. Whalen, Chicago, in the Christian Church.

Report of the chairman of the committee on arrangements, Everitt J. Brown, Decatur.

3:00—Call to order of Secretaries' Conference, Christian Church, by E. B. Owens, president, Dixon.

## FIRST DAY—EVENING.

8:00—Call to order of House of Delegates, in the gymnasium of the Y. M. C. A., by President Chas. J. Whalen.

## SECOND DAY—WEDNESDAY—MORNING.

9:00—Call to order of Sections One and Two for the reading and discussion of the papers of the program in Christian Church.

9:00—Call to order of the Section on Eye, Ear, Nose and Throat, in the gymnasium of the Y. M. C. A., by Harry Woodruff, chairman, Joliet.

9:00—Call to order of the Section on Public Health and Hygiene, in the Assembly room of the Y. M. C. A. Building, by J. W. VanDerslice, chairman, Oak Park.

12:30—Adjournment for luncheon.

## SECOND DAY—AFTERNOON.

2:00—President's Address, by Charles J. Whalen, Chicago.

2:30—Call to order Section on Eye, Ear, Nose and Throat.

2:30—Oration on Surgery, by Joseph Rilus Eastman, Indianapolis.

4:00—Meeting of Medical Legal Committee in the Assembly Room of the Y. M. C. A., Charles J. Whalen, Chicago, and A. H. Arp, Moline, Chairmen.

5:30—Adjournment.

## SECOND DAY—EVENING.

7:30—Special Vaudeville Entertainment at the Empress Theatre, free to members and ladies.

## THIRD DAY—THURSDAY MORNING.

9:30—Call to order of Sections One and Two for the continuance of the program.

11:00—Oration on Medicine, J. P. Sedgwick, Minneapolis.

12:30—Adjournment for luncheon.

## THIRD DAY—AFTERNOON.

1:30—Re-convening for continuation and completion of program.

4:00—Call to order in general session by the President to receive the report of the House of Delegates.

Induction of President-elect.

5:30—Final adjournment.

The Section on Eye, Ear, Nose and Throat will hold surgical clinics at St. Mary's Hospital Tuesday afternoon, May 19th at 2 o'clock.

The St. Mary's Hospital is about five blocks distant from the center of the city.

This Section will also have a banquet on the evening of May 19th, at 6:30 o'clock, at the St. Nicholas Hotel.

A fine program has been arranged which assures the best of entertainment.

## ENTERTAINMENT OF THE LADIES.

## WEDNESDAY, MAY 20.

1:00—Luncheon for the ladies at the Country Club.

3:00—There will be an automobile ride for the ladies, starting from the club grounds.

6:30—Luncheon, Jefferson Medical College, at the Country Club.

For reservations write to Dr. Ben Bachrach.

May 20th at 12:30—Luncheon, Northwestern Medical College, in the Decatur Club Rooms. Dr. C. E. Woodward in charge of arrangements.

May 20th at 12:30—Rush Medical College luncheon at the St. Nicholas Hotel. Dr. M. P. Parrish has charge of arrangements.

May 20th at 12:30—University of Michigan luncheon at the St. Nicholas Hotel. Dr. C. Martin Wood in charge of arrangements.

## OFFICIAL PROGRAM.

## SECTION ONE.

George Parker, Chairman, Peoria.

C. G. Grulee, Secretary, Chicago.

## SECTION TWO.

Frederick A. Besley, Chairman, Chicago.

E. M. Sala, Secretary, Rock Island.



## WEDNESDAY, MAY 20—9 A. M.

The Forms and Method of Operation (Suprapubic) of Hypertrophied Prostate, Daniel N. Eisendrath, Chicago.

Vaccine Treatment of Hay Fever, by Karl K. Koessler.

Eleven Years' Report of the Treatment of Appendicitis by the Ochsner Method, J. B. Bacon, Macomb.

The Technic of Applying Heat in the Treatment of Inoperable Carcinoma of the Uterus, J. F. Percy, Galesburg.

Displacements of the Colon, Carl E. Black, Jacksonville.

The Relation of Precordial Pain to Heart Disease, Joseph M. Patton, Chicago.

Imperforated Anus with Report of Cases, Marvin H. Smith, Sherrard.

## WEDNESDAY AFTERNOON AT 2:00.

President's Address, Charles J. Whalen, Chicago.

Oration on Surgery, Experimental and Clinical Studies of Colon Stasis, Joseph Rilus Eastman, Indianapolis.

Symposium on Joint Diseases.

Pathology, David J. Davis, Chicago.

Röntgenology, J. T. Case, Battle Creek, Mich.

Medical Aspect, Frank Billings, Chicago.

Surgical Aspect, John B. Murphy, Chicago.

## THURSDAY, MAY 21—9:00 A. M.

Cerebral Edema (wet brain) in Chronic Alcoholism, Arthur E. Beifeld and C. E. Sceleth, Chicago.

The Stammering Child, Elmer L. Kenyon, Chicago.

The Psychoneuroses and Their Treatment, Frank P. Norbury, Springfield.

The Practical Significance of the Adrenal Glands, R. G. Hoskins, Chicago.

Bone Transplantation into the Spinous Processes of the Vertebrae for the Cure of Pott's Disease, with a Report of Cases, Charles M. Jacobs, Chicago.

The Role of the Pylorus in the Etiology, Diagnosis and Treatment of Chronic Gastric Ulcer, J. C. Friedman and W. W. Hamburger, Chicago.

Modern GastroscoPy with Demonstration of the Sussman Gastroscope, A. A. Goldsmith, Chicago.

Oration on Medicine, J. P. Sedgwick, Minneapolis.

## THURSDAY AFTERNOON—2:00.

Present Status of the Treatment of Tuberculosis, J. W. Pettit, Ottawa.

Radium, Its Use and Limitations in Skin Diseases, Frank E. Simpson, Chicago.

The Dermatoses of Pregnancy, E. A. Fischkin, Chicago.

Axillary, Arterio-Venous Anastomosis with Report of Cases, Don W. Deal, Springfield.

My Experience with Intravenous Injection of Neosalvarsan, Evlan Sargent, Chicago.

Further Advances in our Studies of Syphilis, B. C. Corbus, Chicago.

## SECTION ON EYE, EAR, NOSE AND THROAT.

Gymnasium of Y. M. C. A. Building.

Harry Woodruff, chairman, Joliet.

C. B. Welton, secretary, Peoria.

Preservation of the Antral Capsule in Operation in Uncomplicated Acute Mastoid Suppuration, Norval H. Pierce, Chicago.

Discussion opened by Louis Ostrom, Rock Island.

Cases Illustrative of the Interdependence of Oto-Laryngology, Rhinology and Dentistry, Joseph Beck, Chicago.

Discussion opened by A. I. Porges, Chicago.

Treatment of Senile Cataract, W. A. Fisher, Chicago.

Discussion opened by Oliver Tydings, Chicago.

The Cataract Operation—Advantages and Disadvantages as Practiced by Col. Henry Smith of India, W. L. Noble, Chicago.

Immature Cataracts, R. J. Tivnen, Chicago.

Indian Operation for Cataract, Watson W. Gailey, Bloomington.

Laryngeal Topography, J. A. Cavanaugh, Chicago.

Discussion opened by J. Holinger, Chicago.

Concerning a New Sign in Exophthalmic Goiter. A Preliminary Report, George Suker, Chicago.

Discussion opened by A. L. Adams, Jacksonville.

Removal of Tonsil by Knife Dissection, O. T. Freer, Chicago.

Discussion opened by T. W. Lewis, Chicago.

The Function of the Faucial Tonsils and Indication for their removal, C. F. Burkhardt, Effingham.

Discussion opened by A. M. Corwin, Chicago.

The Recognition of Chronically Infected

Faucial Tonsils, Geo. E. Shambaugh, Chicago.

Heredity with Reference to the Eye and Ear, J. C. Fisher, Decatur.

Does Ophthalmic Science in the United States Demand an Endowed School of Refraction? J. Whitefield Smith, Bloomington.

Discussion opened by A. L. Adams, Jacksonville.

Metastatic Carcinoma of the Choroid, F. W. Kettlestrings, Francis Lane, Chicago.

Discussion opened by George Suker, Chicago.

The Prognosis in Squint, Thomas Faith, Chicago.

The Importance of the Early Treatment of Strabismus in Infants, W. R. Fringer, Rockford.

Discussion opened by J. Sheldon Clark, Freeport.

The West Intra-nasal Resection of the Tear Sac for Dacryocystitis, Phlegmon, or Stenosis, J. Sheldon Clark, Freeport.

Discussion opened by Norval H. Pierce, Chicago.

Report of a Case of Hypophyseal Tumor, Emory Hill, Chicago.

Discussion opened by A. E. Halsted, Chicago.

Statistics at the School for the Blind at Jacksonville, A. L. Adams, Jacksonville.

Conservation of Vision, T. A. Woodruff, Chicago.

Discussion opened by E. E. Edmondson, Mount Vernon.

Indications for Operative Interference in Glaucoma, H. S. Gradle, Chicago.

#### COUNTY SECRETARIES' CONFERENCE.

##### CHRISTIAN CHURCH.

E. B. Owens, president, Dixon.

H. F. Bennett, vice-president, Litchfield.

T. D. Cantrell, secretary, Bloomington.

Needs and Purposes of The Illinois State Medical Society, Chas. J. Whalen, Chicago.

Booster Sermon, Charles W. Carter, Clinton.

The Secretary's Wireless S-O-S, E. W. Oliver, Peoria.

Hobbies, H. C. Blankmeyer, Springfield.

##### SECTION ON PUBLIC HEALTH AND HYGIENE.

Assembly Room of Y. M. C. A. Building.

J. W. VanDerslice, chairman, Oak Park.

J. A. Poling, secretary, Freeport.

Certified Milk, R. R. Ferguson, Chicago.

Medical Inspection of Dairy Farm Employees, Julia D. Merrill, Chicago.

Typhoid Fever in Rockford, Prof. Paul Hansen, engineer, State Water Survey, Urbana. C. E. Crawford, Rockford.

Possible Functions of Municipal Laboratories, Prof. Edward Bartow, director State Water Survey, Urbana.

Future of Preventive Medicine, John A. Robison, president State Board of Health, Chicago.

Sanatoria of New Mexico, W. T. Brown, Watrous, N. M.

Prevailing Mistakes in the Anti-Tuberculosis Movement, George T. Palmer, Springfield.

Anti-Spitting Signs and the Control of Expectoration. A. Gehrmann, Chicago.

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#### RUSH ALUMNI, ATTENTION!

Come to the Decatur meeting of the Illinois State Medical Society to be held May 19-21. In addition to a good society program there will be a "Get Together" of Rush men, which bids fair to be the best state alumni reunion of record.

You will be sorry if you miss it.

ARTHUR M. CORWIN, *President*.

JOHN RITTER, *Chairman Alumni Reunions*.

CHAS. A. PARKER, *Secretary*.

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The Illinois State Surgical Society will hold its first annual meeting at the Y. M. C. A. building in Decatur, Tuesday, May 19, at 10 a. m. Dr. Robert H. Ferguson, of East Orange, N. J., will read a paper on "Some Psychic Factors in Anesthesia." Dr. C. E. Humiston, of Chicago, Dr. Hamilton, of Mount Vernon, Dr. Buckaster, of Effingham, and many other prominent surgeons throughout the state will talk on organization. All those interested in special or general surgery are invited to attend this meeting.

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#### NOTICE.

I am not attorney for American Medical Defense Association, and do not represent it in any way.

ROBERT J. FOLONIE.

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#### HOTELS AT DECATUR.

St. Nicholas, Headquarters.  
Decatur  
Brunswick  
Walston

Kraft  
Arcade  
Angle  
St. James



## GETTING HIS



—Courtesy Chicago Daily News.

## Auto Sparks and Kicks

## VULCANIZERS.

*B. W. and O. W., in answer to inquiries relative to the value of inexpensive vulcanizers:*

There are a great many vulcanizers on the market, but experience has taught that where vulcanizing is done without the use of steam it frequently burns the tires.

It has been demonstrated to our satisfaction that steam is the only scientific and safe method to use. It distributes the heat evenly to every portion of the repair. There are many inexpensive steam vulcanizers on the market. The only one the writer has so far tested is known as the Positive, manufactured by the Positive Supply Company, Davenport, Iowa, which does the work as satisfactorily as can be done by more expensive instruments.

One writer, in commenting upon the general ignorance of the value of petroleum and its products in the arts and industries, says that "If 100 people were asked to name the most valuable of all the riches taken from the earth, few indeed would be the answers giving petroleum an important place. Yet, coal and iron excepted, no other mineral product can rival petroleum in real value to all the peoples of the earth, without regard to class."

Gasoline promises to remain one of the chief if not the foremost source of energy in the propulsion of motor-driven vehicles for many years to come, in spite of the dire prophecies of its rapid extinction and the threatened inroads of cheaper fuels. Of the proposed substitutes several, kerosene, motor spirits, toppings and others, come from the same source as does gasoline. To the

average motorist petroleum means simply the raw form of gasoline and cylinder oils; very few realize the importance of its other products to humanity as a whole.

## SUGGESTIONS FOR HANDLERS OF GASOLINE, ETC.

Don't keep kerosene in a glass can. You are liable to drop and break it near a stove or gas jet and set the house and yourself afire.

Don't keep the kerosene near a stove or in a hot room. It is liable to form gas and if the can is tightly closed it will explode.

Don't use kerosene to light a fire. There is liable to be a hot coal left over from the last fire, if so, it will immediately form gas and explode.

Don't ever use kerosene to start a slow fire, it will form gas and explode before you can get away.

Don't fill lamps or oil stoves after dark. If you must fill them after dark, never do so while they are lighted. If the fire runs up the stream of oil into the can, the can will explode.

Don't leave the oil stove or lamp burn if you are going to leave the room or house for some time. The wick is liable to turn up higher and higher until the overheated lamp or stove explodes.

Don't use the same style can for kerosene and gasoline (prevent mistakes). Paint the gasoline can red, fasten a tag to the top of the can, plainly marked gasoline.

## RUBBER.

The Amazon district in South America, the Federated Malay states, Africa and Mexico supply the world with rubber. That which comes from the district around Para, Brazil, is of the best grade, and no better rubber than up-the-river-Para has yet been produced. Ceylon, during the last few years, has come to the front as a great rubber-producing state. Hundreds of thousands of acres are under cultivation and the quality of gum is very high. Rubber from Africa and Mexico fall lowest in the scale.

## STEAMING RADIATOR

The water capacity of almost all radiators is not sufficient to prevent violent steaming when the engine is run for any considerable time on slow gear-speed connection.

## Society Proceedings

### ADAMS COUNTY.

The Adams County Medical Society met in regular monthly session on Monday, April 13, at the Chamber of Commerce rooms, Quincy. Luncheon was enjoyed at the Hotel Newcomb.

The greater part of the morning was devoted to reading of the testimony taken at the trial of Dr. J. E. Miller, against whom charges of unprofessional conduct had been preferred by Dr. Otis Johnston. At the conclusion of the reading a ballot was taken with the result that 39 of those present thought Dr. Miller guilty and 11 felt he was innocent. This was followed by another ballot to determine the punishment due the one found guilty, and resulted in 39 favoring expulsion and 11 against it. Therefore, Dr. Miller was expelled from the society.

The afternoon was taken up with the scientific program. Dr. W. S. Knapheide read a very interesting paper relative to the business side of the profession. A general discussion followed, which brought out many good points and proved that the majority of physicians are poor business men.

ELIZABETH B. BALL, Secretary.

### CLARK COUNTY.

Society met at 2 p. m., Feb. 12, 1914, in Drs. Bradley's office, Marshall, Ill.

Members present: McCullough, Johnson, Rowland, Burnside, S. C. Bradley, R. H. Bradley, Pearce, Prewett, Mitchell, Weir, Haslitt and Ryerson.

Mitchell reported a case of a typical pneumonia which elicited an interesting discussion.

Burnside reported a labial hematoma a few hours after labor incised 2 days later; good recovery; tumor was some 4 inches in diameter. S. C. Bradley reported similar case; small tumor suppurated in few days, fever dropped and case recovered.

Rowland reported an epiphyseal separation of humerus.

McCullough reported a facial paralysis from forceps delivery recovered in few days.

The paper of the evening was presented by L. H. Johnson on "Prevention and Spread of Contagious Diseases."

G. T. Rowland led the discussion, followed by an extended and valuable discussion participated in by all present.

The following resolution was unanimously adopted:

WHEREAS: Germany and other nations have compulsory vaccination and have practically quit having smallpox, and whereas: It is possible for Illinois and the United States to do the same, and

WHEREAS: All infectious diseases are preventable and are evidence of ignorance or neglect on the part of some one, therefore, be it

*Resolved* by Clark County Medical Society that we favor compulsory vaccination of all and the making and enforcing of laws establishing the accepted

methods and means of preventing the infectious diseases.

President McCullough appointed the following as a program committee for the ensuing year: Ryerson, Rowland and Johnson.

Plans for scientific work were discussed that the committee might get the ideas of the members. The quiz instead of papers, the securing of foreign talent, the exchange of papers with other county societies, etc., were considered.

L. J. WEIR, Secretary.

### *Regular Meeting April 9, 1914.*

Society met in the New Archer House at 2 p. m. after a pleasant time together at the dinner table.

Members present: McCullough, Johnson, Burnside, S. C. Bradley, Mitchell, Weir, Marlow, R. H. Bradley, Haslitt, Prewett, Ryerson.

Mitchell reported a case of sore throat with membrane, though not yet plainly diphtheritic. Other cases of membranous sore throat were reported and discussed by several members.

Marlow reported a case of placenta previa. Placenta was expelled fifteen minutes before the child was born.

McCullough presented the subject for the meeting "Dislocation of Shoulder and Elbow Joint" in a clear and interesting paper, giving anatomy necessary to know especially to enable one to treat dislocations, dwelling most upon reduction and treatment. All members participated in the discussion which brought out many experiences and practical points in reduction of the different dislocations of these joints.

The secretary-treasurer's annual report was read and approved and a vote of thanks extended the secretary-treasurer for his labors the past year.

The interest taken in the work of the society has been good and the good accomplished has been much.

The program committee reported the following program for the year and after thorough discussion it was adopted:

Program of the Clark County Medical Society from May 14, 1914, to April, 1915:

May 14, 1914—"How Shall We Feed the Baby?" R. A. Mitchell. Discussion led by E. M. Duncan.

June 11, 1914—"Blood Pressure and Its Significance," F. Buckmaster, Effingham, Ill. Discussion led by Dr. Anderson. "Vaccine and



Serum Therapy," Joseph Hall. Discussion led by L. J. Weir.

July 9, 1914—"Chronic Constipation, Causes Local and General, Complications and Management," J. W. Marlow. Discussion led by R. H. Bradley.

August 15, 1914—Outing and fish fry on the banks of the Wabash, for members and their families, under supervision of L. A. Burnside.

September 10, 1914—"Significance of Pain as a Guide to Diagnosis and Treatment," J. Y. McCullough. Discussion led by G. T. Rowland.

October 15, 1914—"Practical Laboratory Diagnosis," C. C. Holman, Effingham, Ill. "Materia Medica and Therapeutics," C. D. Ryerson. Discussion by all members.

December 10, 1914—"Malignant Tumors," S. C. Bradley. Discussion led by P. P. Haslitt.

February 11, 1915—"Tuberculosis," C. J. R. Wettstein, Effingham, Ill. Discussion led by R. B. Boyd.

April 14, 1915—"Perineal Lacerations," T. H. Lewis. Discussion led by G. W. Prewett.

Upon motion it was voted to meet in Marshall except when invitations are received and accepted to meet in other towns.

The following officers were elected for the ensuing year: President, L. A. Burnside; vice-president, P. P. Haslitt; secretary-treasurer, L. J. Weir; delegate, J. Y. McCullough; alternate delegate, L. A. Burnside; censors, R. H. Bradley, Joseph Hall, L. H. Johnson.

L. J. WEIR, Sec'y.

## COOK COUNTY.

### CHICAGO MEDICAL SOCIETY.

#### *Regular Meeting, March 25, 1914.*

1. The Present Status of the Treatment of Surgical Tuberculosis, with Demonstration by Lantern Slides and Patients. Emil Beck.

Discussion. Bayard Holmes, John Ritter and Clarence Wheaton.

2. Inflammatory Tumors. Alexander Wiener.

3. Welfare Work in the Iron and Steel and Allied Industries, with Special Reference to Fatigue. Thomas Darlington, New York.

#### *Regular Meeting, April 1, 1914.*

1. Standpoint of Association of American Medical Colleges. F. C. Zappfe.

2. The Present Limitations of the Illinois State Medical Practice Act, from the Standpoint of the Illinois State Board of Health. J. A. Robison.

3. Standpoint of Council of Medical Education of the American Medical Association. A. D. Bevan.

Discussion. J. D. Robertson, N. P. Colwell and A. M. Corwin.

#### *Joint Clinical Meeting, April 8, 1914.*

The meeting of April 8 was a joint clinical meeting between the Chicago Medical Society, Chicago Urological Society, Chicago Dermatological Society and the Northwest Branch at the Cook County Hospital.

1. Presentation of Cases of Skin Lesions, E. A. Fischkin, Northwest Branch.

Discussion. David Lieberthal, Chicago Dermatological Society.

2. Presentation of Pathological Material and Exhibition of Instruments. R. H. Herbst, D. N. Eisendrath, G. Kolischer and H. L. Kretschmer.

#### *Regular Meeting, April 15, 1914.*

1. Report of Two Cases of Post Partum Inversion of the Uterus, with Discussion of the Pathogenesis of Obstetrical Inversion. W. C. Jones.

Discussion. C. S. Bacon, N. Sproat Heaney.

### Chicago Ophthalmological Society.

A regular meeting was held February 16, 1914, with the President, Dr. Wesley Hamilton Peck, in the chair.

#### PARTIAL ALBINISM; EYES ONLY AFFECTED.

Dr. W. E. Gamble reported a case of partial albinism of the eye without involvement of the hair or skin. He first saw the patient at eight months of age, at which time patient seemed to be blind. There was sufficient pigmentation of the irides to give to the casual observer the suggestion of brownish color. Lateral nystagmus is present. The hair, when first seen, was light brown; now it is quite dark. When sixteen months old, his error of refraction-hypermetropia, was corrected and the lenses ground from number 3 London smoked glass. His vision has gradually improved so that now, at twenty-seven months, he plays with small objects and with other children. Judging from the darker color of the iris at the present time, he has no doubt that this improvement is partly due to gradual deposit of pigment since birth.

# TWO GENERATIONS OF CASES OF RETINITIS PIGMENTOSA IN WHICH HEREDITY AND CONSANGUINITY ARE PROBABLY ETIOLOGIC FACTORS.

Dr. W. E. Gamble reported the case of Mrs. H., 27 years of age, with retinitis pigmentosa. Her father and his brother and sister are both victims of the same disease. The grandfather of Mrs. H., married his first cousin, and the father of Mrs. H. married his first cousin.

His reason for presenting these cases is that in America it is rare to see two generations having the disease and having a clear history of consanguineous marriage. In the isolated mountain districts of southern Europe this condition is not so uncommon.

It is sometimes very difficult to distinguish widely diffused superficial choroiditis with pigmentation of the retina and atrophy of the disc, from this disease.

The history of syphilitic retino-choroiditis with pigmentation of the retina and atrophy of the disc along with atrophic choroidal patches and pigment under the retinal vessels clears the diagnosis.

## DISCUSSION.

Dr. J. E. Colburn said he failed to note in Dr. Gamble's report of albinos whether there was an aberration of the color sense. Two cases that he had seen occasionally for twenty years, ever since they were children, a brother and sister, had complete albinism. They darkened a little as they grew older, but they had absolutely no color sense. With the worsteds they would pick out the colors as to color value, and classify them, but they had no sense of color perception. This had been maintained for the last fifteen or sixteen years. They had not improved in their color vision. With them he used a very dark fenestrated glass, and their refraction was put into a small opening so that they have been able to read and use the eyes with comfort. Vision was very good; they had very little nystagmus, he thought none at all in their later life. After they had worn correction for a number of years the nystagmus they had slightly in childhood disappeared.

In the other cases in which there was partial albinism they were absolutely blind to green, but with blue or yellow, or the combinations of blue or yellow, or the combinations of red or black or the grays, they had very good color perception. In a more recent case he found absolutely accurate color perception: Vision was a little low, but not materially so. Nystagmus is usually present, but not necessarily so.

Consanguinity he thinks holds in albinism as well as it does in the opposite condition. He gathered fifteen cases, and in eight of the fifteen there was infant consanguinity, and three cases dated back to two generations, the first albinism occurring in two generations prior to the one he saw.

# AN ANOMALOUS NERVE HEAD WITH GOOD VISION.

Dr. Michael Goldenburg reported the case of a male negro, aged 19, in which there was an apparent absence of both discs, with marked pigmentation in

the region of the nerve head. The fields of vision for color and objects were very irregular, while the acuity of vision was almost normal. There was a history of eye trouble for the past six years, consisting largely in inability to read for any length of time without pain and excessive lacrimation. About five years ago the patient had glasses fitted by an optician. Examination of the eyes last October disclosed an alternating squint present with the right acting as the fixed eye, although vision was better in the left. Patient is able at this time to see with his right eye 20/50 and with his correction 20/25.2. The tension, cornea, anterior chamber and pupillary reaction are all negative. The iris is heavily pigmented and dilates perfectly. The lens and vitreous are also negative. Examination of the fundus reveals the following anomaly—an attempt to locate the disc as a preliminary step to a more detailed examination proved futile. Tracing the vessels from the periphery to the point of convergence did not seem to help in locating anything that might resemble a disc. However, at the point where the vessels apparently come together, and where the nerve head should be, a very small intensely white spot was found. This spot could not be defined. The vessels appeared negative in every respect. The retina is normal with the exception of a marked pigmentation in the region of the nerve head, but gradually assumes a lighter shade toward the periphery. The fields of vision are not markedly contracted, but the marginal lines appear serrated in outline.

Dr. Clark W. Hawley spoke of a case he exhibited before the society a number of years ago. There are one or two differences between the case of Dr. Goldenburg and his, in that there was almost no pigmentation at the disc. The blood-vessels seem to come out more as in the normal disc. Around the blood vessels the retina seems to be somewhat darker than the rest of the fundus. In one eye of this patient there was a streak which looked like a hyaloid membrane. Vision was fairly good. There was some discussion at the time he exhibited the case as to whether it might be one of optic neuritis. A very careful examination of the case a number of times did not disclose anything which would point to an optic neuritis. In his case there was an absence of the disc. In Dr. Goldenburg's case the pigmentation he thought would indicate the formation of a disc with the pigment on top of it, but in his own case it was almost nil.

Dr. Thomas Faith said that several years ago he reported in the *Ophthalmic Record* two or three cases similar to the case reported by Dr. Goldenburg. There was no pigmentation, but he thought it was proper to classify it under absence of the disc. The cases resembled very closely those of optic neuritis; the disc was swollen, and there was a difference of three or four diopters between the summit of the nerve head and the surrounding fundus. One of the cases had a vision of six-sixths (6/6) in one eye, and less than that in the other. He did not remember the details, but in all cases he was able to watch for



many months; he was satisfied he had a congenital anomaly to deal with. Taking the field a number of times showed a slight variation. There was no enlargement of the normal blind spot, and no evidences of inflammation, exudation, or hemorrhage in the retina or nerve head. One of the cases he has been able to see within the last few months and the condition is identical with what it was a number of years ago. In the myopic case the myopia had progressed some. There was three-quarters of a diopter more of myopia than there was when he reported the case, yet there is no evidence of change at the margin of the disc.

Dr. Faith referred to other cases in the literature on this subject.

Dr. Goldenburg, in closing the discussion, stated that in the *Ophthalmic Record* for 1901 he saw a report of Dr. Hawley's case; that vision was bad and no improvement with glasses. The report at that time was incomplete and he could not get much information out of it. Dr. E. V. L. Brown in discussing the case was unable to find any evidence of the disc, but the vitreous changed quite a bit. He thought there were the remains of the vitreo-glial structure. As to the absence of the disc, he assumed the attitude of an embryo ophthalmologist when he said it was hardly possible to have absence of the optic disc without vision. There was a case in an adult of absence of the optic disc, but he was totally blind.

In regard to his own case he was in hopes someone would tell him something about the fields and clear up the point of how we were able to account for these constricted fields and serrated edges of the outline.

#### THE INTRA-CAPSULAR CATARACT OPERATION IN IMMATURE CATARACT.

Dr. William A. Fisher pointed out two serious objections to the intra-capsular operation: First, the want of an experienced assistant, and, second, the great danger of loss of vitreous. These two objections could be overcome, and he mentioned a plan of eliminating both of them, or at least robbing them of most of their dangers. The want of a properly trained assistant has always been considered sufficient cause to deter many good operators from attempting the intra-capsular operation. He does not underestimate the value of a good assistant, but he thinks his double lid hook will simplify the assistant's part of the operation, and Colonel Smith believes with him that an assistant can be trained with this instrument in a comparatively short time to successfully care for the lids. With the proper assistant some operators might be bold enough to attempt the removal of a lens in its capsule. However, even if a skilful operator with a good assistant attempted the removal of a lens in its capsule before he knew how to introduce the Smith spoon in impending or actual loss of vitreous, he would soon meet with disaster.

It is not a difficult matter after cocainization of the patient or a number of them to become familiar

with the lid hook, not only holding the lid away from the eye when expelling the lens, but also during the incision and the iridectomy. There are only two positions in which the lid should be held and they should be thoroughly mastered by both operator and assistant before beginning so important an operation as the removal of the lens by any method.

There are many eye speculums that will hold the lids open in a proper manner when the patient is not nervous, or made so by a little pain, but no one can tell when a patient is going to squeeze his lids and make pressure upon the eyeball. If a surgeon must use an eye speculum to make the incision he should not use one while the lens is being delivered. If specula must be abandoned for the delivery of the lens, the author believes they should not be used at all during any part of a cataract operation. He has not used an eye speculum when operating for cataract for the past ten years.

The Smith spoon is not as easily placed behind the lens with the left hand as some may believe, but it is possible to get this technic by operating upon animal's eyes. After a very large experience with the intra-capsular operation there was one thing he feared when he left India, and that was the introduction of the spoon to deliver the lens in impending or actual loss of vitreous. He operated upon more than 100 eyes before he was permitted to use the spoon, and after that the loss of vitreous was not great enough for him to become proficient in the use of the instrument. When he returned to Chicago he made himself familiar with the introduction of the Smith spoon by practice on pig's eyes placed in a mask. The more skilful the operator in delivering the lens, the less often will he be called upon to use the spoon, but he must be prepared to use it at any time.

Dr. Fisher then described the method for operating on cataracts.

As to iridectomy, the method employed by Smith is not as simple as it appears, but any good operator should be able to do it with a little experience. It is not usually necessary to introduce the iris forceps into the eye, and if the ophthalmic surgeon insists in putting the iris forceps into the eye he will be rewarded by some injured capsule which will prevent the removal of the lens in its capsule.

Some ophthalmic surgeons recommend preliminary iridectomy in certain cases, and he has in a previous paper recommended a preliminary iridectomy in all cases. Since his experience in India he feels that a preliminary iridectomy would be of advantage especially to those who do not operate frequently.

Experience only can teach one how much pressure to make in delivering the lens, but enough must be maintained to keep the corneal wound full of lens, otherwise vitreous will escape. The lens being partially expelled and hanging in the wound is extracted with the hook.

As to the toilet, the lid is held up and away from the eye by the double hook. The patient usually looks up which position aids replacement of the iris. Should

the patient not look up he will do so on request. It is not necessary but dangerous to have the patient look down after the incision has been made. The iris is tucked back into the edges of the corneal wound with the Smith spatula, and the eyes closed. Any clean dressing that suits the operator will be proper, but Smith prefers to cover both eyes with a light dressing after the lashes have been covered with yellow oxide of mercury, one grain to the ounce. Whatever dressing is used no pressure should be applied.

No matter what after treatment is followed, the result will usually be good if the operation has been performed without accident. The less after treatment the better. The dressing need not be removed for nine days unless the patient complains, and usually he is ready to be discharged at the first dressing.

Should an immature cataract be operated upon? If the objections to the removal of the lens in its capsule can be overcome, the author thinks there is no need in a patient with beginning cataract to wait for maturity.

How far can one go with safety? If the lens does not present when the operator thinks he has made safe pressure he can abandon the intra-capsular operation and cut the capsule with a cystitome or capsule forceps and deliver in the old method with the new technic. He suggested the use of his capsule forceps if any are to be used, because they can be introduced without having the patient look down.

In the intra-capsular operation the lens can be removed as soon as the patient is unable to attend to his duties. The lens can be as easily removed at this time as any other, and he will be in better condition at this time than later.

Some ophthalmic surgeons, Dr. Fisher said, have an impression that Smith does all the intra-capsular operations that are done in India. This is far from correct, but he is the foremost man in India. In the Punjab, where there are 20,000,000 inhabitants, there are about 25,000 cataract operations performed a year, and ninety per cent. of them are intra-capsular operations.

He believes that Smith's technic when used in the capsulotomy operation will do more for the cataract operation than all that has been done for it in the past one hundred years. If that technic is thoroughly mastered in the capsulotomy method a good operator will not have much difficulty in removing the lens in its capsule.

As a word of caution, he urged in closing that ophthalmic surgeons contemplating the removal of a lens in its capsule, master the Smith technic and use it in their old operation and not attempt to remove a lens in its capsule until they have thoroughly mastered the Smith technic and have used it in many capsulotomy operations. If they do not adopt the intracapsular operation they will do better work by using Smith's technic in the capsulotomy operation.

#### DISCUSSION.

Dr. Derrick T. Vail, Cincinnati, Ohio, said he has entirely abandoned the technic of the old operation. He has not used a cystitome since his return from India four years ago. The cystitome is a poor instrument to use, not for what it does, but for what it does not do. He has scarcely any use for a discission needle. He extracts in the capsule whenever it is possible in his hands to do so. He described the operation as it is done by Smith. The incision Smith makes is the best incision for cataract that has ever been devised. The principle involved in brief is that of an angle-hinge to a trap door. The fine point of the knife punctures the cornea at right angles to the limbus. The narrow blade is then turned flat in the plane of the iris and made to pass slowly through the chamber, but on emerging at the opposite side, the edge is turned up again to come out at nearly right angles to the limbus and is then turned flat so that the edge, staying just within the cornea, severs it from the limbus with that one clean forward sweep. The effect of this technic was illustrated by diagram. Those two little angle cuts at the ends of the incision speak volumes for allowing space for lens emergence. Thus it is, that Smith can cause an eye to disgorge a large lens through an apparently small incision with a minimum strain. The corneal incision opens, not like the jaws of a steel trap on its resisting hinge, but more like the jaws of a snake whose articulations yield unresistingly.

As for the lid hook, he always uses it in every cataract operation when delivering the lens and toileting the wound. As for the lens hook, he uses nothing else for delivering the lens. As for the lens spoon, it is a great instrument and works well.

Dr. Fisher's argument favoring operation on immature cataracts, he thought, is unassailable. Personally, he operates on every case, no matter what kind of a cataract it may be, if the vision is at best 20/70 or less. He likes to operate on these cases; he does not dread it at all. If vision is 20/70 or thereabouts, his patient is still in prime health. He can also dilate his pupil and study his fundus. It is a source of immense satisfaction to have seen the optic disc and macular region just before operating.

A faultless, skilled assistant is as essential as a good operator. The speaker's excuse for not delivering every case in the capsule is that he has not such an assistant as Nur Ali.

If Fisher's new lid hook will eliminate the danger of an untrained assistant, then he has conferred a priceless boon on Smith's intracapsular operation, and he prays it may be so.

Dr. William L. Noble described at length the operation as he saw Dr. Fisher perform it. He could not agree with Dr. Fisher that it is unwise to introduce the iris forceps into the eye for fear of injuring the capsule. He could not see why there was any less risk in introducing one blade of the forceps into the eye over the iris, although one does not reach the



pupillary margin of the iris, and the other blade outside of it and grasping the iris. The iridectomy was free. The operation as performed by Dr. Fisher, who had mastered the technic, was comparatively simple, although it involved the highest skill, in that he made no false motions. Every motion counted.

Everything said about the double hook is justified. It increases the simplicity of the work of the assistant. He believes it is a physical impossibility to do the operation as described by Dr. Fisher with any degree of assurance of success with the ordinary speculum. The constant, persistent pressure of separating the lids with speculum is always annoying to patients.

As to the difficulty of placing the spoon behind the lens where vitreous engages in the wound, he fails to see why it should be such a hard thing to do. He could see no difficulty in getting the spoon behind the lens when the vitreous has once appeared. The next time he operates for cataract he will disregard the use of the speculum and employ the lid retractor in its place.

Dr. H. H. Brown said the inflammatory involvements, the accidents from the immediate operation, and the necessity for secondary operations made those who are doing private practice feel as though they are woefully lacking in the results they are obtaining.

As to the operation under discussion, he has seen the late Dr. Green operate after the Smith method three times; he has not had the pleasure of seeing Dr. Vail operate; he has seen Dr. Fisher operate once, and he was holding himself open to conviction. There is not a member who is so blind as to feel that his results have been so satisfactory and so flattering that a better percentage of success cannot be obtained than he is obtaining in his practice. From the detailed accounts of work of men who are doing this operation, he feels a new era is opening in extracting the crystalline lens from the eye ball. He feels, however, that two things are essential to a successful issue of the operation. First, a larger experience than any man can obtain in private practice, therefore necessitating a large hospital and clinical experience to achieve the best results by the technic described. Second, it is necessary to have a corps of assistants more competent than those one is ordinarily accustomed to seeing in hospitals.

As to the use of the speculum, he has abandoned this as obsolete. Some means must be adopted to remove the pressure from the eye ball. He welcomes the Smith operation, and is personally grateful to Dr. Vail and to Dr. Fisher and others who have sacrificed so much to bring this operation and its definite details to the immediate attention of the profession.

Dr. Oliver Tydings stated that the intracapsular operation for the removal of a cataractous lens, as performed by Smith, is the safest yet devised. The advantages gained in other things, such as freedom from postoperative inflammatory troubles, and after cataract, were admitted by all. Is it possible for a good operator to so protect his patient in this operation as to make him safe or more so than by the older

methods? To this he would say yes. Dr. Vail had shown step by step how this work is done. He had also pointed out the two sources of danger to the vitreous. First, the pressure of the lids upon the globe before the zonula is ruptured. Second, the faulty use of the spoon when loss of vitreous is threatening. The advantage of Smith's method, when loss of vitreous was threatened, must appeal to all who have tried it.

Fisher has introduced some new features and devised two new instruments which added greatly to the safety and simplicity of the operation. First, the lid retractor which he gave to the profession ten years ago, the careful use of which aids in removing all pressure from the globe during the first part of the operation while the incision is being made. The most recent advance is the double hook. This replaces the single hook of Smith and does away with the necessity of a highly trained assistant. Any man who proposes to do the Smith-Fisher operation should familiarize himself with the technic and thus be able to throw around the patient this additional security while doing the operation with which he is most familiar.

Dr. Richard J. Tivnen stated that in November, 1911, there was a symposium on cataract held by the Chicago Ophthalmological Society. Previous to this meeting he sent a circular letter to ophthalmologists in the United States and received 150 replies. Excerpts from the replies were read. In the circular letter this question was asked, "Have you performed the Smith operation of extracting the cataract in the capsule, the so-called intracapsular method? If so, in how many cases?"

Dr. Peter Callan, of New York, in his answer said that Dr. Green had operated on two of his patients with success. In regard to the Smith operation Dr. Callan said: "One should not lose sight of the fact that Smith's patients are peasants, whose wants are few, and mental demands not great. Major Smith is in a class by himself, whose operations far outnumber those of any other surgeon living or dead. What he can do and does with impunity should not be attempted except under very favorable circumstances in the general run of cases such as we have in the United States. I have no doubt a good operator under Smith's instructions would be expert in his method; still I do not consider it as safe as the usual operation with capsulotomy."

Dr. Tivnen stated that his excuse for quoting Dr. Callan was that his reply reflected his own views in the matter and those of others regarding the Smith operation in this country.

Out of one hundred and sixty letters received, one hundred and eleven replied they did not perform the Smith operation, and forty-nine replied they had done it.

A second question was, "Based on your practical experience, do you regard the Smith operation of dealing with the lens capsule superior or inferior to the usual capsulotomy method?"

Of the forty-nine who had performed this operation, eighteen considered the method superior to the capsulotomy method; seventeen considered it inferior, and in fourteen no opinion was expressed. Seventeen of the forty-nine who had performed the operation, and who considered it inferior to the capsulotomy method, each gave one of the following reasons: Danger of loss of vitreous, necessitating keeping an aged patient flat upon the back for a long period; unsafe to the average operator; corneal incision inferior compared with old methods; bandage left undisturbed for ten days is unsurgical and dangerous.

Eighteen of the forty-nine who performed the operation and considered it superior to the usual capsulotomy method, each gave one of the following reasons: Simplicity; less danger of infection; freedom from postoperative irritability; no secondary healing; better vision; ideal for immature cataract; better in selected cases, etc."

Dr. Thomas Faith said ophthalmologists performed simple extraction for a while and did iridectomy, and then went back to the combined operation for some time.

Smith has worked out a method of preparation of the patient which is far superior to anything with which he is familiar. He does not know of any method of cleaning out the conjunctival sac like Smith does it by using a lid hook and injecting bichlorid into the conjunctival sac, being careful afterward to milk out, as it were, the bichlorid solution from the conjunctival sac by pulling the lid toward the external canthus and allowing it to escape.

The technic of extracting the lens is far superior to the old method. By placing the hook on the lower margin of the cornea and keeping up pressure steadily, he has had the lens come out much cleaner than by the old method. Another thing which appeals to him is the Smith incision, which he did not understand until Dr. Fisher explained it.

He does not think applying a bandage over the eye and keeping it on for seven or ten days is unsurgical. One should not attempt to extract the lens and operate on the eye without he is reasonably sure there is no infection present and the wound is clean. It is not considered unsurgical to tie up any other wound for several days, and why should it be unsurgical in the case of the eye?

Dr. George F. Suker said the extraction of cataract is the most delicate operation known to surgery and appealed to him as the height of perfection in operative work. The greatest drawback to cataract extraction is the capsule. Whether much or little is left behind it is always a bugbear, more or less. The only way to remove it is to take away the lens in its capsule.

As to the Fisher lid retractor, it is the best of any physical appliance as far as he knows, in that it fixes the lid so that it cannot get away. One can raise the patient's head with it, and yet not have the point go beyond the upper edge of the tarsus. That being so and the lower lid being fixed, if one applies the

technic of Smith, as demonstrated by Vail, Green and Fisher, he will have as nearly an ideal operation as if he did the capsulotomy with it.

He mentioned a case on which he recently operated with a good result. By having the lid held by the Fisher retractor the patient is unable to do himself any damage. He is satisfied of that because the patient on whom he operated with the assistance of Dr. Fisher was unruly. Novices should begin to employ the technic with capsulotomy, and after they have done a number of these operations they can try the Smith operation.

The hook in the delivery of the lens is far better than the ordinary method that has been in use. There is less damage done to the eye in delivering it in that way, and with the lid retractor and with the hook better results ought to be achieved. In removing the iris in doing an iridectomy, with one blade of the forceps on the cornea or pupillary area, and the other one on the upper edge of the wound, compressing the cornea, as it were, to squeeze out the iris and grasping the protruding iris, is good technic, but he agrees with Noble that a portion of the iris can be removed without injuring the capsule. Within a week or so in his service he has had two eyes (Dr. Fisher was present) on one of which a beautiful iridectomy was done by Dr. Darling and vision in that eye today is 20/30. If the introduction of the iris forceps will produce trouble with the capsule, the patient would have 20/50 vision.

The Smith technic cannot be improved upon except by having such assistance as mentioned in the advice and suggestions given by Dr. Fisher, and that is by the lid retractor.

At the time of the symposium referred to by Dr. Tivnen, the speaker made the remark, and he believes it yet to be true, that the intracapsular extraction of cataract is suitable for two purposes, one the removal of hypermature cataract, and the other the immature variety.

In a case he saw Dr. Fisher operate upon a little of the vitreous was lost, but Dr. Fisher did not use the spoon. Perhaps he did not think it was necessary to do so. While the amount of pressure in the removal of the lens seems enormous, if one tries it he will find it is not so. The introduction of the spoon in the preservation of the vitreous, giving it support, is as good mechanical appliance as can be had for the retention of the vitreous when it presents, because in delivery of the lens upon the spoon there is no pressure upon the vitreous, and the direction of the force is at right angles to the plane of the spoon, and the lens is parallel to that of the spoon and it has got to come up perpendicularly; therefore, there is no pressure exerted upon the vitreous.

Dr. Fisher, in closing the discussion, thanked the members for the fairness they had shown to the intracapsular operation since he had returned from India. He had not noticed any opposition, and all who had witnessed his operation had expressed themselves as being interested. He sounded a warning,



namely, that any one contemplating the intracapsular operation should master the Smith technic, and especially the lid hook, and spoon delivery in the old operation before attempting the removal of a lens in its capsule. When this is mastered a tremendous step will have been taken forward in the cataract operation, no matter what method is pursued. In Smith's latest paper the visual results are the best that have ever been reported. Results of vitreous escape have been reported by Smith, Vail, Greene and himself. He believes the doctors who gave Dr. Tivnen adverse reports a few years ago would be more favorable to the intracapsular operation when they became more familiar with the Smith technic. He has never heard any unfavorable reports from any one whom he knew was familiar with the technic.

#### ENGLEWOOD BRANCH.

The April meeting of the Englewood Branch was held Tuesday evening, April 7, 1914, at the Englewood Hospital. The meeting was called to order at nine o'clock by the president, Dr. Julius H. Hess, and the following program presented:

##### *A Symposium on Gastro-Intestinal Diseases.*

##### Newer Methods of Diagnosis and Treatment.

1. Stomach and Duodenum, James Graybeal.
2. Large and Small Intestines, Frederick J. Lesemann.

Both of these papers were well written reviews on the very latest work done on this subject and were very interesting and instructive.

Immediately before the reading of the papers Dr. V. D. Lespinasse showed a case of impotency in which he had implanted a testicle with the result that the man has had an erection. He described his technique. Dr. C. A. Stevens showed a case of epiphyseal separation of the radius, twenty months ago, with non-growth of radius, but continued growth of the ulna.

The discussion was opened by Dr. Solomon Strouse. He brought out many good practical points, stating that with all the new up-to-date methods it is well to remember that the clinical history is still valuable, that the x-ray is expensive, not needed in all cases and taken far too frequently. He spoke of the value of routine procedure in examinations of diseases of stomach and bowels. That in hunting for ameba it must be done right, that is the fresh stool should be examined at the bedside and with

warm stage. That they are then frequently found. In closing he called attention to the relation of diseases of the gastro-intestinal tract to metabolic disturbances, reciting several interesting cases.

Dr. James T. Case, in opening his masterful discussion, stated that he liked the way Dr. Strouse had put it, that the x-ray is only an aid to diagnosis and does not constitute a diagnosis; that it may and may not be of help; that it should be looked upon as a consultation and that it has its place only; that doctors are themselves to blame and that the sooner they realize the limitations of the x-ray the better it will be for all.

Dr. Case showed scores and scores of beautiful x-ray plates which were thrown upon a screen so that all could see while he was explaining them.

Those who failed to come missed a rare treat and those who were present carried away with them a good idea of the value of, likewise the limitations of, the x-ray as an aid to the diagnosis in gastro-intestinal diseases.

A vote of thanks was extended Drs. Strouse and Case.

The attendance was 78.

ARTHUR G. BOSLER, Sec'y.

#### HAMILTON COUNTY.

The annual meeting of the Hamilton County Medical Society was held at the office of Dr. M. C. Dale in McLeansboro at 2 p. m., April 14, with a good attendance and more than the usual interest.

The minutes of the meeting of January 20 were read and approved. The treasurer made his annual report, showing a balance on hand of \$23.40. During the past year we have endeavored to develop the fraternal principles of professional courtesy and believe we have progressed in medical ethics, as well as in a broader medical knowledge.

Since our last meeting the oldest member and president of this society, Dr. Charles M. Lyon, who had practiced here continually since the Civil War, has died.

The election of officers for the year 1914 resulted as follows: President, Dr. M. C. Dale; first vice-president, Dr. J. A. Bozarth; second vice-president, Dr. C. O. Lane of Belle Prairie; secretary-treasurer, Dr. I. M. Asbury; censors, Drs. P. M. Nation, J. A. Bozarth, J. J. Ellis; delegate, Dr. I. I. Hall of Broughton; alternate, Dr. P. M. Nation.

A vote decided that the fiscal year of this society shall begin January 1 and end December 31, with

the dates of regular meetings the second Tuesdays of January, April, July and October.

Dr. C. H. Anderson presented the subject of "Variola" in an able address, and Dr. P. M. Nation favored the society with an excellent paper on "Vaccination." These subjects were timely by reason of a recent epidemic in this county. Both authors delved into their subject from away back and brought them up to date. They were complete, comprehensive and practical, and brought out a generous discussion. The society adjourned to Meet July 14.

At 7:30 p. m., after a good dinner (at home) we mixed with an audience of men, women and young people at the First Baptist Church and heard Dr. E. W. Fiegenbaum of Edwardsville deliver his very interesting address on "Innocent Victims of the Social Evil."

I. M. ASBURY, Secretary.

#### JO DAVIESS COUNTY.

The Jo Daviess County Medical Society met in the parlors of the Rays Hotel, Stockton, Ill., at 2 p. m., Jan. 15, 1914, and was called to order by the president, Dr. I. C. Smith, with the following answering to roll call: Stafford; Clark; Snyder; Renwick; Keller; Smith, I. C.; Kreider; Fleege; Smith, D. G.; Nadig; Miller; Logan; with R. J. Stiver of Freeport, C. L. McNutt of Lena and H. C. Whittaker of Warren as visitors. Minutes of previous meeting were read and approved.

The application of F. E. Hagie of Elizabeth was taken up and after balloting he was declared elected to membership.

The president appointed the following committees:

Auditing committee, Miller, Keller and Fleege; nominating and apportioning, Stafford, Logan and Snyder.

The nominating committee reported as follows: President, J. C. Renwick; vice-president, F. W. Boots; secretary and treasurer, A. T. Nadig; censor, N. A. Kaa; delegate to State meeting, R. E. Logan; alternate, W. H. Miller.

On motion the secretary was instructed to cast the vote for the society.

Auditing committee reported books correct. A motion was made to give Dr. D. G. Smith a vote of thanks for his long and efficient services as secretary of this society. Motion carried.

Dr. K. F. Snyder then read a paper on "Constipation" which was well received and imparted some valuable points; was discussed by Kreider, Miller and Smith.

Dr. J. S. Clark then gave a very interesting talk on his trip abroad which was both edifying and entertaining. Society adjourned to meet at Elizabeth, April 16, 1914.

A. T. NADIG, Secretary.

#### KANKAKEE COUNTY.

A regular meeting of the Kankakee County Medical Society was held at the Court House, Kankakee, Thursday evening, April 9, 1914, President Dr. George H. Lee in the chair. Minutes of previous meeting not read. The special feature was a lecture by Prof. Magnuson of Chicago, on "Fractures and the Use of the Ivory Plates and Screws," demonstrated by the stereopticon. The Doctor soon demonstrated that he was very conversant with his subject, presenting it in a very clear and concise manner, much to the pleasure and profit of the goodly number present. After a general discussion the meeting adjourned to May 14, all feeling that they had been repaid for the time and energy expended in attending the meeting. The secretary reports 38 members in good standing for the year 1914.

C. F. SMITH, Secretary.

#### LAKE COUNTY.

The Lake County Medical Society held its regular spring meeting at Highland Park, April 7. The attendance was unusually small, only 13 members. Cold weather and the wet and dry election were the probable causes.

Dr. Abt, the well known paediatrist of Chicago, gave an informal but very interesting talk on "Spasmophilia in Infancy," describing the various phenomena of rachitis, tetany, laryngismus stridulous, etc., and their causes, prognosis and treatment.

A very nice supper was then served by the wives of the local members.

Dr. Fahy was elected delegates to the State meeting and Dr. Taylor, alternate. The next meeting will be at Libertyville some time in June.

W. C. BOUTON, Secretary.

#### MADISON COUNTY.

Our society met at the Country Club, East St. Louis, on April 2, 1914, with the St. Clair County Medical Society by special invitation. Previous to the joint session a short business meeting was held with Dr. E. A. Cook, president, in the chair. The transfer card from the St. Clair County Medical Society, of Dr. H. B. Gillis, of Wood River, was presented and by vote accepted and Dr. Gillis declared a member of this society. Bills to the extent of \$8.09 were presented, audited, found correct and ordered paid. A committee of five consisting of Drs. Burroughs, W. H. C. Smith, Ferguson, Tulley and Hastings was appointed by the chair to arrange for the May meeting, with power to act. On motion of Dr. Tulley, duly seconded and carried, the secretary was instructed to draw upon all members who are delinquent in their annual dues at this date. The secretary announced that the June issue of "The Madison County Doctor," would be devoted to the presentation of "Social Problems," and he was instructed on motion of Dr. Pfeifferberger, unanimously accepted, to print as many copies of that issue as he may need.



for his mailing list. Dr. W. H. C. Smith invited the society to hold the June meeting at his School, in Godfrey, the invitation to include the members of the Jersey County Medical Society. The invitation was unanimously accepted with thanks. Secretary Tulley of the Anti-Tuberculosis Society was instructed to procure for himself a membership in the National Organization, at the expense of the County Tuberculosis fund.

E. W. FIEGENBAUM, Secretary.

### ROCK ISLAND COUNTY.

The annual meeting of Rock Island County Medical Society was called to order by President Snively at Rock Island Club on the evening of Tuesday, April 14, 1914: Present, twenty-eight members and two visitors. The annual reports of the treasurer and secretary showed a net cash balance on hand of \$210.08 and an average attendance through the year of 27.5, this attendance representing about 40 per cent of paid-up membership.

Election of officers resulted in the choice without contest of the following, the secretary's attempt to impede the progress of the steam roller being refused serious consideration: President, J. W. Seids, Moline; first vice-president, J. M. O. Bruner, Port Byron; second vice-president, G. A. Wiggins, Milan; secretary, W. D. Chapman, (re-elected), Silvis; treasurer, A. T. Leipold (re-elected), Moline; delegate, W. D. Snively, Rock Island; alternate, G. L. Eyster, Rock Island.

The retiring president and secretary were each given a vote of thanks for services. The secretary's use of the name of the society in replying to an erroneous newspaper article of a month past was granted the endorsement of the society: the article refuted was one which gained much publicity over the country in the month of March and which made it appear that the American Medical Association now sanctioned all forms of newspaper advertising by its members.

The usual and annual bills were allowed.

The published program was carried out in full: "Photographic Clinic; Some Diseases of the Skin," Dr. A. N. Mueller.

"Injuries to the Brain, with Case Reports," Dr. E. M. Sala.

"Principles of the Treatment of Fractures," Dr. A. D. West.

Meeting adjourned until June.

W. D. CHAPMAN, Secretary.

### ST. CLAIR MADISON JOINT MEETING.

On invitation of the St. Clair County Medical Society to the members of the Madison County Medical Society, a joint meeting was held on April 2, 1914, at the Country Club, East St. Louis, which proved to be the largest meeting of medical men ever held in this vicinity under county auspices. The day was an ideal one and about fifty doctors from St. Clair County, and thirty from old Madison, responded to

the invitation. Dr. A. Bechtold and Dr. E. A. Cook, presidents of their respective societies, presided over the joint session which was devoted to obstetrics. Dr. Percy H. Swahlen, of St. Louis, gave an address on "Emergencies in Labor," which was fully up-to-date, detailing all the unexpected complications that might arise and the mode of procedure in each. Dr. Hypes is a fluent speaker, and gave the impression that he was completely at home on the subject. Dr. J. Bernard Hastings of Alton, read a paper upon the "Aseptic Management of Normal Labor," which gave in detail the latest information on this practical subject and was received with marked attention and interest. Both papers drew out a full and free discussion, and added much to the general information.

E. W. FIEGENBAUM, Secretary.

### WINNEBAGO COUNTY.

The Winnebago County Medical Society assembled at Nelson Hotel, April 14, 1914. Members present, 22; visitors, 3. Dr. Ernest E. Ochsner in the chair. The minutes of previous meeting were not read.

The president introduced Dr. Frank Smithies, until recently a staff member of St. Mary's Hospital, Rochester, Minn., at present on the staff of Augustana Hospital, Chicago, as the speaker of the evening. Dr. Smithies spoke on "Gastric Ulcer-Diagnosis and Treatment." He gave the society a very instructive talk and based his statements on several hundred cases. Many cases were illustrated by lantern slides and proved highly interesting. The society gave Dr. Smithies a rising vote of thanks for his kindness in coming to Rockford and for his very informative lecture.

DR. C. M. RANSEEN, Secretary.

### Personals

Dr. Frank Billings has returned from a trip to the Mediterranean.

Dr. G. E. Fuller has removed from Henryetta, Okla., to Elizabethtown.

Dr. C. W. McKee has opened an office at 17 S. Crawford Avenue, Chicago.

Dr. Chas. H. Francis has removed to 77 E. Washington Street, Chicago.

Dr. and Mrs. A. Gaebler, Chicago, have started on a four months' tour to Europe.

Dr. Liston H. Montgomery has been appointed local surgeon of the Pere Marquette.

Dr. J. H. Carpenter has removed his x-ray laboratory to 1906 Ogden Avenue, Chicago.

Dr. Arthur R. Elliott, Chicago, has resumed practice after undergoing an appendectomy.

Dr. George W. Webster announces the removal of his office to 30 North Michigan boulevard, Chicago.

Dr. J. Levitan of the staff of the Peoria State Hospital has been transferred to the Elgin State Hospital.

Dr. Olive Hughes Kocher of the staff of the Elgin State Hospital has been transferred to the Watertown State Hospital.

Drs. William C. Robert and Harry E. Kerch have been appointed directors of the Kane County Antituberculosis Society.

Dr. Morley D. Bates announces the removal of his office to the corner of Central Park avenue and Monroe street, Chicago.

Dr. B. Barker Beeson, Chicago, has gone to Paris, where he will do special work in dermatology at Hospital St. Louis.

Dr. Rawson J. Pickard has returned to Maywood after nearly five years of work in the government hospitals in the Canal Zone.

Dr. Wm. Parker, former secretary of Brown County Medical Society, has removed from Mt. Sterling to 510 Main Street, Peoria.

Dr. Esther A. Hart Stone of the Watertown State Hospital has been transferred as physician to the State Home for Girls, Geneva.

Dr. John R. Tobin, Elgin, has been appointed chief surgeon of the Aurora, Elgin and Chicago Railway, and Dr. Frederick C. Schurmeier, Elgin, assistant chief surgeon.

Dr. William Cuthbertson was elected president, and Dr. Hugh N. MacKechnie, secretary-treasurer of the Chicago Alumni Association of Toronto University, March 21.

Dr. R. H. Willingham, Elizabethtown, formerly secretary of Hardin County Medical Society, has removed to Neoga, where he succeeded Dr. R. L. Kurtz, who goes to St. Mary's Hospital, Rochester, Minn.

Dr. Drake, the new secretary of the State Board of Health, was presented with a chest of sterling silver by his friends in the Chicago Department of Health April 28, with their best wishes for his success in his new position. In the Public Health Section we reproduce one of the posters designed by Dr. Drake for the *Bulletin* of the Chicago Department of Health.

## News Notes

—The new Chicago Surgical Society has changed its name to the Chicago Academy of Surgery.

The sixteenth annual meeting of the American Proctologic Society will be held at Atlantic City, June 22-23 next.

—Sharp and Smith have established a free nurses registration bureau at their new store, 155-157 North Michigan boulevard, Chicago.

—The Chicago Surgical Society entertained a large delegation of European surgeons April 21 who had been attending the Fourth International Surgical Congress in New York City.

—A free medical and dental dispensary is to be opened at the north end of Maple Street, Evanston, about May 1. Special attention is to be given to school children.

—Dr. Henry Schmitz, 7 West Madison street, Chicago, has purchased 50 mgm. of radium for use in his gynecologic service at St. Mary's of Nazareth and Frances Willard Hospitals.

—The 39th meeting of the American Academy of Medicine will be held in Atlantic City June 19-21, 1914. The general subject of the papers and discussions will be "The Practice of Medicine and the Industries."

—Mayor Harrison, on March 27, turned the first shovelful of earth of the ground for the new contagious disease hospital at Marshall boulevard and Thirty-First Street. The hospital when completed will accommodate 600 patients.

—The Woodford County Anti-Tuberculosis League has decided to hold four general meetings during the year, and twelve local meetings. The league is to issue a quarterly bulletin, to be edited by Dr. Homer A. Millard, Minonk.

—The annual banquet of the Cook County Hospital physicians was held in the new Fort Dearborn Hotel, April 2. One hundred and four physicians and guests were present. Dr. Frederick G. Dyas acted as toastmaster.

—The Rush Alumni Association has begun to raise a permanent fund of \$30,000, the interest of which is to be used for fellowship and other objects of the association. Forty life memberships have already been paid in.



—The Pitman-Myers Company of Indianapolis has changed its name to the Pitman-Moore Company. Mr. Harry C. Moore has been president of the company several years. The change of name does not mean any change of management.

—The Chicago Medical Society has followed the lead of Baltimore and organized the Chicago Medical Society Glee Club, for which recruits are solicited. Dr. Arthur C. Kleutgen, 903 West Garfield boulevard, is medical director and soloist of the club.

—The Physicians' Club of Chicago has provided an attractive program for its annual ladies' night, May 1. After the dinner a lecture will be given by Miss Helen Keller, and her teacher, Mrs. Macy, on "The Heart and the Hand," or "The Right Use of Our Senses."

—In the case of Dr. Coleman G. Buford against the estate of A. L. Sercomb for \$5,000 for an operation performed on Mrs. Sercomb, the probate court returned a verdict of \$5,050 in favor of Dr. Buford, that is, the original claim and \$50 for consultation and examination of Mr. Sercomb.

—James Deering has made a donation of \$1,000,000, to Wesley Hospital, which will hereafter be called Wesley Memorial Hospital. The object of the bequest is to provide treatment for the worthy poor and at the same time increase the clinical facilities of Northwestern University Medical School.

—On March 16 the Department of Health collected samples of milk for sediment testing. For a farmer near Bass, Ind., the test was so unfavorable that notice was sent to him to appear before the Board of Health. Eleven days later a letter was received from the man, saying that he could not come to the city, since he had been ill with small-pox since March 9, and had not yet recovered. During this time, milk had been coming in from the farm daily.

—The Mississippi Valley Conference on Tuberculosis will take place in Memphis, Tenn., May 12, coordinately with the National Con-

ference of Charities and Correction. This conference was called by Mr. James Minnick, secretary of the Illinois State Association for the prevention of tuberculosis and Mr. A. E. Kepford, State Lecturer of the Department of Tuberculosis of the Iowa State Board of Control. The objects of the conference are: First, to define the relations between tuberculosis and other philanthropic work. Second, to extend the propaganda to the rural districts. Third, to plan sanatorium laws best adapted to the states of the Mississippi valley.

—The week of April 19-25 in Chicago was known as "Baby Week," and a combined campaign to raise funds for the Infant Welfare Society was carried on to the end that the Infant Welfare stations may be increased to fifty. Addresses were given by Mrs. George Bass, president of the Chicago Women's Club, Judge Julian W. Mack, Dr. S. Josephine Baker of New York and Miss Julia C. Lathrop of Washington at the Olympic theater, Sunday April 19. The Chicago Advertising Association, through a committee, kept the subject prominently before the people in hundreds of publications and display posters. An electric sign at the corner of State & Madison Streets announced the daily result of the canvass.

—Sharp & Smith will move from their present location at 103 N. Wabash Ave., which they have occupied for the past fifteen years, to 155-157 N. Michigan Blvd., occupying the entire building and two additional floors, giving them approximately 48,000 square feet, enabling them to conform their entire business in their new location, comprising of a salesroom, a hospital display room, two factories, a veterinary department and the weaving of surgical elastic goods, of which they are the largest manufacturers in the United States.

This firm was established in 1844 by J. P. Sharp and H. D. Smith, both now deceased, but continued under the original name of Sharp & Smith by W. W. Sharp as president, son of J. P. Sharp, this firm being incorporated in 1904. The firm has established world-wide reputation as producers of only the highest grade goods and an immense trade was built up on quality, the trade extending all over the world.

## Public Health

—The *Journal A. M. A.* in a recent issue announces that "The Duket Cure Blows Up." From the comments on this alleged cure published in the *JOURNAL* last Spring nothing short of a complete-collapse of that bubble was to be expected. A report of Duket's backers contained the following paragraph, which give the facts in a nutshell:

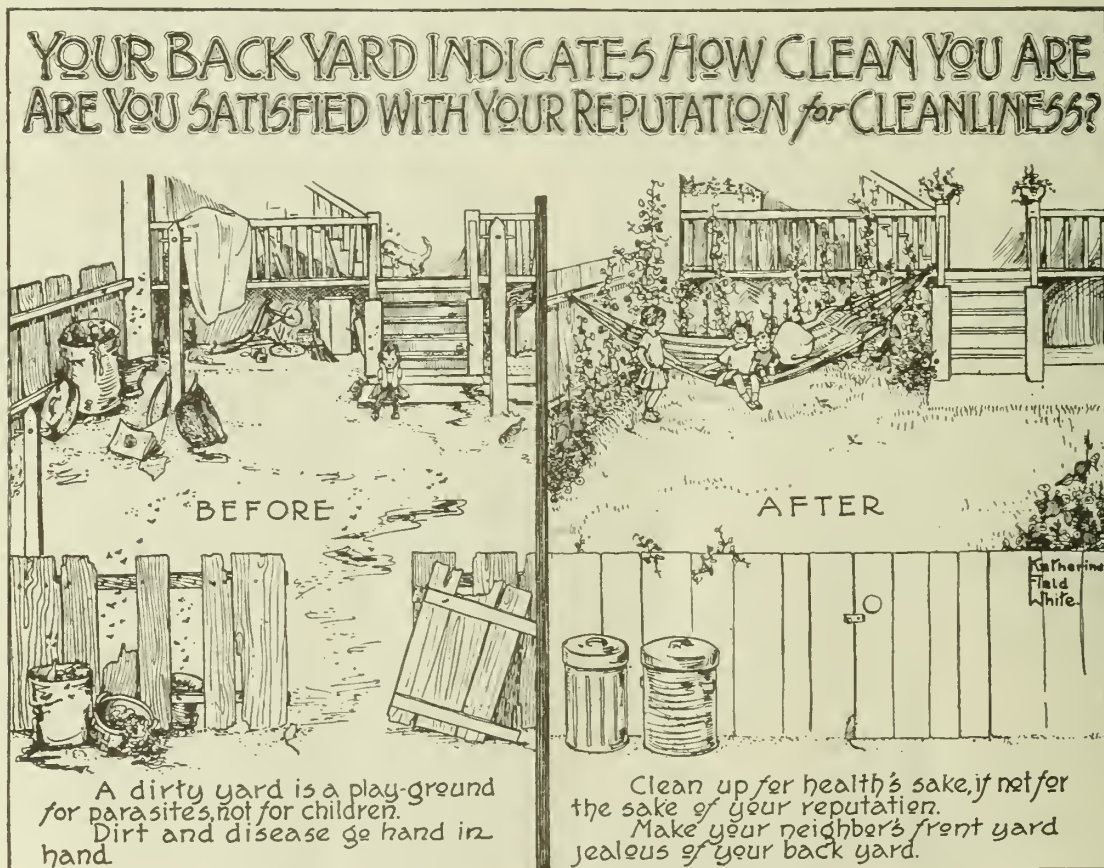
"It may at once be stated that the investigators and authors of this report have finally come to the conclusion that there are absolutely no merits in the Duket treatment of tuberculosis; that the method is vastly inferior to any of the approved systems of treating pulmonary tuberculosis, and that their observations would indicate that the Duket treatment may sometimes lead to albuminuria."

—Investigation of the Friedmann tuberculosis remedy by several German experts has established the fact that fresh samples of the remedy are contaminated by bacilli and streptococci, and upon injection into guinea-pigs some of them died of tuberculosis. It would, therefore, seem that

the remedy was not free from danger, whatever may be said of its curative effects.

—The *Madison County Doctor* for April contains its usual fine selection of medical news, including some live advice on "swatting" the fly. The fly season—the open season for exterminating them—is now on. A few swats now will save many more later in the summer. But please note that covering the garbage cans and manure boxes tightly, and disposing of the contents so that no flies are attracted to the house will very largely overcome the fly nuisance. All windows and doors of houses and privies should be screened and the vault especially should be made fly-proof. Two ounces of crude carbolic acid added to a gallon of kerosene is an excellent application for garbage and manure. The vault should have a sprinkling of chlorinated lime at frequent intervals.

—We quote from the April *Bulletin* of the Montgomery County Medical Society the following comment anent the case of a member of the society who withdrew from membership when his methods of advertising were criticized:





"Suffice it to say that the medical profession is opposed to advertising—why? Because truthful statements have no advertising value and will not attract business, therefore the practice soon evolves itself into fraud and the advertiser makes extravagant claims of methods not possessed by the medical fraternity at large. His prey are principally the incurably sick, grasping at straws, and the sucker whose ailment is largely psychic, both of whom are exploited to the limit.

"Medical advertising is a dirty game at best, loathed by the better element of the profession. If you win in medicine, you must 'get right' with yourself, the public and your profession."

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## Marriage

SAMUEL DUFF ANDERSON, M. D., Elvaston, Ill., to Mrs. Lena Everhart of Littleton, Ill., at Quincy, Ill., recently.

OLIVE FRANCES HUGHES, M. D., and Mr. Emil Koher, both of Elgin, Ill., February 26.

ALFRED E. RIVES, M. D., to Miss Helen Lawrence, both of East St. Louis, Ill., at Louisville, Ky., March 2.

FRANK MONROE WELDY, M. D., to Miss Rose Aurelia Seifried, both of Chicago, April 4.

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## Deaths

LEILA GERTRUDE BEDELL, M. D. Boston University, 1878; for many years a practitioner of Chicago and for ten years a resident of Tryon, N. C.; from 1885 to 1888, president of the Chicago Women's Club; died at her home in Tryon, N. C., March 28, aged 76.

MOREAU ROBERTS BROWN, M. D. University of Louisville, Ky., 1876; of Chicago; emeritus professor of laryngology and rhinology in the Chicago Polyclinic; formerly professor of laryngology, rhinology and otology in the College of Physicians and Surgeons, Chicago; a member of the Illinois State Medical Society; a Fellow of the American Laryngological Association; Medical Director of the National Union; a prominent specialist on diseases of the throat, nose and ear; died at his home in Winnetka, Ill., March 20, aged 60.

JOHN HERBERT CORY, M. D. Eclectic Medical College of the City of New York, 1878; for

many years a member of the Board of Education and Health Officer of Geneva, Ill., died at his home in that city, about March 25, aged 62.

ELISHA C. DUNN, M. D. American Eclectic Medical College, 1888; at one time secretary of legation at Constantinople; and once alderman of Rockford, Ill.; died at his home in that city, March 23, aged 74.

HENRY S. HINMAN, M. D. College of Physicians and Surgeons, Keokuk, Iowa, 1878; a practitioner of Jasper County, Ill., for thirty-six years; formerly president and secretary of the Jasper County Medical Society, and police magistrate of the city of Newton; died at his home March 19, from valvular heart disease, aged 66.

CHARLES T. HUNTER, M. D. University of Tennessee, Nashville, 1878; died at his home in Springerton, Ill., March 18, from heart disease, aged 74.

OLIN McCORMICK, M. D. College of Physicians and Surgeons, Chicago, 1900; of Herscher, Ill.; died in the Presbyterian Hospital, Chicago, March 20, aged 45.

WILLIAM R. NASH, M. D. Indiana Medical College, Indianapolis, 1877; formerly of Brownsburg, Ind.; died recently at his home in Fairmount, Ill., aged 72.

ORANGE H. RUSSELL, M. D. College of Physicians and Surgeons, Keokuk, Ia., 1866; for half a century a practitioner of medicine; died at his home in Lomax, Ill., from senile debility, March 31, aged 74.

ERNEST J. SCHENCK (license, years of practice, Illinois 1883); a practitioner of Princeton, Ill., since 1858; died at his home March 15, from heart disease, aged 83.

CHARLES ALLEN SMITH, M. D. Barnes Medical College, St. Louis, 1897; formerly a practitioner of East St. Louis and De Land, Ill.; died in the West Side Hospital, Chicago, March 8, from cirrhosis of the liver, aged 78.

EUGENE G. WEST, M. D. Hahnemann Medical College, Chicago, 1884; formerly of Effingham, Ill.; died at his home in Orange, N. J., March 29, from scarlet fever, aged 49.

WILLIAM C. WILLEFORD, M. D. Medical College of Indiana, Indianapolis, 1881; of Marion, Ill.; formerly president of the Davies County

(Ind.) Medical Society; local surgeon for the Chicago and Eastern Illinois Railway; died at the home of his son in Indianapolis, January 2, from cerebral hemorrhage, aged 64.

CELIA M. HAYNES, M. D. Cleveland University of Medicine and Surgery, 1877; an army nurse during the Civil war; one of the first women to practice medicine in Chicago; died in St. Luke's Hospital, April 9, aged 69.

WILLIAM THOMAS KIRBY, M. D. Northwestern University Medical School, Chicago, 1897; a Fellow of the American Medical Association; and a private banker of Chicago; died in Wesley Memorial Hospital in that city, April 16, from tumor of the brain, aged 42.

HERMAN MILBACHER, M. D. University of Munich, Bavaria, 1881; a member of the Illinois State Medical Society; and a well-known practitioner of Aurora; died in Long Beach, Fla., April 11, aged 63.

HENRY C. SAWYER, M. D. College of Physicians and Surgeons, Keokuk, Iowa, 1878; died at his home in Cornell, February 24, aged 68.

#### NEW AND NONOFFICIAL REMEDIES.

Since the publication of New and Nonofficial Remedies, 1914, the following articles have been accepted for inclusion with "N. N. R."

H. M. Alexander & Co.: Typhoid Vaccine, Immunizing.

B. B. Culture Laboratory: B. B. Culture.

Farbwerke Höchst Co.: Amphotropin.

Fairchild Bros. & Foster: Trypsin.

Hoffman-Laroche Chemical Works: Thiocol, Syrup Thiocol, Roche.

Hynson, Westcott & Co.: Phenolsulphonephthalein, H. W. & Co.: Phenolsulphonephthalein Ampoules, H. W. & Co.

Merck & Co.: Ceroin.

H. K. Mulford Co.: Anti-Anthrax Serum, Mulford; Antistreptococcus Serum scarlatina, Mulford; Disinfectant Krelon, Mulford; Salicylos; Staphylo-Serobacterin; Strepto-Serobacterin, Typho-Serobacterin.

E. R. Squibb & Sons: Tetanus Antitoxin, Squibb.

Thiocol and Syrup Thiocol, Roche, readmitted to N. N. R. The advertisements of Thiocol and Syrup Thiocol, Roche, to the public in the form of Sirolin having been abandoned here and abroad, the Council has readmitted Thiocol and Syrup Thiocol, Roche, to New and Nonofficial Remedies (see above).

Trypsin, Fairchild.—A powder consisting of the proteolytic enzyme of the pancreas, separated to a considerable extent from the other enzymes and constituents of the gland and of a definite strength. Trypsin digests proteins and nucleoproteins in slightly alkaline media. Fairchild Bros. & Foster, New York. (*Jour. A. M. A.*, Mar. 7, 1914, p. 776.)

Cerolin.—Cerolin consists of the fats, cholesterol, lecithin and ethereal oil extracted from yeast by alcohol. Experiments have indicated that the laxative action of yeast depends on the fats and lipid constituents and that in skin affections these substances have the action of yeast itself. Hence cerolin, marketed in the form of cerolin pills, 1½ grains, is said to be useful in furunculosis, acne and in other skin affections. It is also said to be useful in habitual constipation, leukorrhea, erosions of the vagina and cervix and in similar diseases. Merck & Co., New York City. (*Jour. A. M. A.*, March 21, 1914, p. 931.)

Refined and Concentrated Tetanus Antitoxin, Squibb.—For description see New and Nonofficial Remedies, 1914. Marketed in the form of syringes containing respectively an immunizing dose and a curative dose. E. R. Squibb & Sons, New York. (*Jour. A. M. A.*, March 21, 1914, p. 931.)

Typhoid Vaccine (Immunizing).—For description of typhoid vaccine see N. N. R., 1914, p. 259. It is prepared according to the method of the U. S. Army Laboratory. Marketed in ampoule and syringe packages, each containing 500 million, 1,000 million and 10,000 million killed typhoid bacilli. H. M. Alexander & Co., Marietta, Pa. (*Jour. A. M. A.*, March 28, 1914, p. 1014.)

B. B. Culture.—A pure culture of *Bacillus Bulgaricus* marketed in bottles containing 90 Cc. Intended for use in intestinal indigestion and for the enterocolitis of infants. B. B. Culture Laboratories, Yonkers, N. Y. (*Jour. A. M. A.*, March 28, 1914, p. 1014.)

#### Book Notices

THE PRACTICE OF PEDIATRICS. By Charles Gilmore Kerley, M. D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital. Octavo of 878 pages, 139 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$6.00 net; half morocco, \$7.50 net.

W. B. Saunders Company have just issued "The Practice of Pediatrics," by Charles Gilmore Kerley, M. D.

This is one of the highest grade text-books we have seen that has come out recently.

As is usual in a text-book on pediatrics, much attention is given to feeding. Malnutrition in its various forms is discussed together with the many resulting conditions.

All the acute infections to which childhood is liable are taken up for study. These various headings are



taken up systematically, with ample attention given to prophylaxis, prognosis, diagnosis, and treatment.

Gymnastic therapeutics is given a chapter. So many physical defects may be relieved by this means, that this chapter is a real addition to the book.

A chapter on heredity and environment is of interest. A chapter on general therapeutic measures takes into consideration many agents, including climate, eating, bathing, exercises, alcohol, heat, cold, lavage, etc.

Vaccine therapy is given attention.

In all this is one of the very satisfactory monographs of pediatrics.

**DEVELOPMENT AND ANATOMY OF THE NASAL ACCESSORY SINUSES IN MAN.** Based on 290 lateral nasal walls, showing the various stages and types of development from the sixtieth day of fetal life to advanced maturity. By Warren B. Davis, M. D., Corinna Borden Keen Research Fellow, Jefferson Medical College, Philadelphia. Octavo of 172 pages with 57 original illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$3.50 net.

Quite unlike any other volume on anatomy is this volume from Dr. Warren B. Davis. The book deals extensively with embryologic anatomy of the nasal accessory sinuses, continuing with the study of the same anatomical parts of the child, the youth, and the adult.

The drawings, 57 of them, are remarkably good. The entire work shows great care in its production.

The book should be in the hands of every rhinologist.

**STATE BOARD QUESTIONS AND ANSWERS.** By R. Max Goepf, M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Third edition, thoroughly revised. Octavo volume of 717 pages. Philadelphia and London: W. B. Saunders, 1914. Cloth, \$4.00 net; half morocco, \$5.50 net.

The name implies this is a volume of questions asked at various State Board Examinations and the answers thereto. It is a very large quiz compend, covering all the subjects likely to be given in any medical examination. A call for a third edition indicates its value to those contemplating an examination.

**MEDICAL GYNECOLOGY.** By S. Wyllis Bandler, M. D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Third thoroughly revised edition. Octavo of 790 pages, with 150 original illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$5.00 net; half morocco, \$6.50 net.

If medical gynecology were more studied and less operative gynecology were practiced, there would be fewer neurasthenics.

This work is devoted entirely to medical gynecology. In it are discussed the perplexing conditions the practitioner so frequently finds.

The author apparently does not believe that the slight malpositions of the pelvic organs frequently found, are the cause of all the symptoms that women fall heir to. The medical side of all the subjects are discussed—diagnosis, prognosis, and treatment are all

well represented, and we recommend this work to the profession.

**THE PATHOGENESIS OF SALVARSAN FATALITIES.** By Dr. Williams Wechselmann, Directing Physician of the Dermatological Department, Rudolph Virchow Hospital in Berlin. Authorized translation by Clarence Martin, M. D., First Lieut. M. R. C., U. S. Army; member Association Military Surgeons, St. Louis, Mo. The Fleming-Smith Company, Medical Publishers, Saint Louis, U. S. A. Price \$1.50.

This little volume, by such an eminent authority, coming at this time, when salvarsan is really only proving its place, yet being so universally used, will be of especial interest.

The book consists mostly of a citation of cases, method of diagnosis, treatment, symptoms and findings, and autopsy, together with the author's views on the cause of the fatalities.

Any physician who is using salvarsan in his practice, should read this little volume.

**THE PRINCIPLES OF PATHOLOGIC HISTOLOGY.** By Frank B. Mallory, M. D., Associate Professor of Pathology, Harvard Medical School and Pathologist to Boston City Hospital. Octavo of 677 pages, with 497 figures containing 683 illustrations, 124 in colors. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$5.50 net.

This new work from the presses of the Saunders Company comes with a pleasing appearance.

The book shows a vast amount of work and care in its production. It is quite complete in the number of subjects treated.

The author has a method particularly his own, for the teaching of his subject, which will prove of interest to his students.

In discussing the final result, he studies many of the acute diseases, which may produce the same conditions.

The large number of drawings and microphotographs are again representative, not only of the amount of work, but also the care with which it has been done. One hundred and twenty-four color illustrations add much to the value of the book.

We think the student of pathology will like this work, and we recommend it to the profession.

**TREATMENT OF CHRONIC LEG ULCERS, A PRACTICAL GUIDE TO ITS SYMPTOMATOLOGY, DIAGNOSIS AND TREATMENT.** By Dr. Edward Adams. 122 Pages. Cloth \$1.00. Published by The International Journal of Surgery Company, 100 William Street, New York City.

One of the most serviceable little booklets for the practitioner we have seen. It deals exclusively, in a practical way, with those chronic ulcers which are very annoying, and which many times the physician fails to cure, probably because he does not know just how to treat them to get the best results. This little volume tells how to best treat them with the least possible inconvenience to the patient, and at the same time get results.

**CHEMICAL PATHOLOGY.** Being a Discussion of General Pathology from the Standpoint of the Chemical Processes Involved. By H. Gideon Wells, Ph.D., M.D., Professor of Pathology in the University of Chicago and in Rush Medical College, Chicago. Second edition, thoroughly revised. Octavo of 616 pages. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$3.25 net.

The revision of this work was necessary because of our ever-changing studies in biologic chemistry. Primarily it is the work of a scientist, and is more especially of interest to the laboratory worker, the teacher of pathology, and the student of pathology.

The work is not destined to replace either textbooks on chemistry or those on pathology, but will be studied in conjunction with those works.

The first chapter of the book is written more especially for the student of a decade ago, and puts him in touch with the theories of today—so far as biologic chemistry is concerned.

The medical practice of tomorrow will be based very largely on the studies that have called forth this book.

The mechanical make-up of the book is also good.

**THE JUNIOR NURSE.** By Charlotte A. Brown, R. N., Instructor in the Boston City Hospital; Graduate of the Boston City Hospital and Boston Lying-in Hospital Training Schools for Nurses; late Superintendent of the Hartford Hospital Training School, Hartford, Conn. 12mo, 208 pages, illustrated. Cloth, \$1.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

This little volume, as its name implies, is intended for the nurse who is beginning her training. It seems to be an excellent little work for the purpose it is intended. The woman who has had no training, and who is doing "practical" nursing, will find this book of great value to her.

**TEN SEX TALKS TO GIRLS (14 years and older).** By Irving David Steinhardt, M. D. Author of "Ten Sex Talks to Boys" (14 years and older). Instructor in Clinical Surgery and Assistant Surgeon, Cornell University Medical School; Assistant Pediatric, Mount Sinai Hospital, O.P.D., New York City; Orthopedic Surgeon, New York Hospital, O.P.D., and Bronx Hospital and Dispensary; First Lieutenant, Medical Reserve Corps, U.S.A.; Member of American Medical Association; The American Society of Moral and Sanitary Prophylaxis; and the American Academy of Political and Social Science. With six illustrations. Philadelphia and London: J. B. Lippincott Company. Price \$1.00.

### BOOKS RECEIVED.

**TEACHING SEX HYGIENE IN THE PUBLIC SCHOOLS,** by E. B. Lowry, M. D. Author of "Herself," "Himself," etc. Chicago. Forbes & Company, 1914. Price 50 cents.

**UNITED STATES BREWERS' ASSOCIATION.** The Year Book with Proceedings of the Fifty-Third Annual Convention Held in Atlantic City, N. J., Friday and Saturday, October 3d and 4th, 1913. The United States Brewers' Association, Publishers, New York, 1914.

**TREASURY DEPARTMENT, United States Public Health Service.** Public Health Bulletin No. 62. July, 1913. Communicable Diseases: An Analysis of the Laws and Regulations for the Control Thereof in Force

in the United States. By J. W. Kerr, Assistant Surgeon General, and A. A. Moll, A. B. Prepared by Direction of the Surgeon General. Washington Government Printing Office. 1914.

**THIRTY-SIXTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF NEW JERSEY, 1912, and Report of the Bureau of Vital Statistics.** Union Hill, N. J. Dispatch Printing Company. 1913.

**ROCHESTER AND THE MAYO CLINIC.** A Fair and Unbiased Story Calculated to Aid Physicians to Greater Cures and Larger Incomes. By George Wiley Broome, M. D. The Shakespeare Press, 114-115 E. 28th St., New York. 1914. Price, \$1.10.

### RESULTS OF EXAMINATION HELD BY THE ILLINOIS STATE BOARD OF HEALTH.

CHICAGO, JANUARY 14-16, 1914.

Physicians: Present, 96; passed, 77; failed, 19.

#### PASSED.

College	Year Graduated	Total No. Examined
Barnes .....	1895, 1906(1), 1910 (1)	3
Bennett .....	1911(1), 1912(1), 1912(1), 1913(1), 1913(10), 1914	16
Chicago Coll. M. & S. ....	1911, 1911(1), 1913(4), 1913(2), 1913(4)	13
Drake University .....	1909(1), 1912	2
Hahnemann, Chi. ....	1912(1), 1913(1), 1913	5
Harvard, Boston. ....	1911(1), 1912	2
Hering .....	1913(1)	1
Illinois Medical, Chi. ....	1910(1)	1
Jefferson .....	1908	1
Jenner .....	1913(1)	1
Johns Hopkins. ....	1907(1), 1910(1), 1913	3
Marquette Univ. ....	1913	2
Meharry. ....	1904(1), 1910(1), 1913(2)	4
National, Chi. ....	1903(1), 1904	2
Northwestern .....	1907(1), 1913	2
Royal Univ. of Budapest .....	1898	1
Royal Univ. of Vienna .....	1895	1
Rush .....	1912(1), 1913(4), 1914	8
Univ. of Geneva .....	1911	1
Univ. of Illinois. ....	1912(1), 1913(2), 1913	5
Univ. of Naples .....	1906(1)	1
Univ. of Nebraska .....	1913	1
Univ. of Penn. ....	1897	1
Washington Univ. ....	1913	1

#### FAILED.

American, St. L. ....	1912	1
Central P. & S., Indpls. ....	1897	1
Chi. Coll. M. & S. ....	1909(1), 1910(1), 1911(1), 1911(1), 1912(1), 1913(2), 1913(1)	8
Detroit Coll. of Med. ....	1910	1
Hahnemann, Chi. ....	1910(1), 1912(1)	2
Hering, Chi. ....	1913(1)	1
Jenner .....	1913(1)	1
National, Chi. ....	1903(1), 1909(1)	2
P. & S., St. Louis. ....	1907(1)	1
Univ. of Illinois. ....	1912(1)	1



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXV CHICAGO, ILL., JUNE, 1914 No. 6

## Original Articles

### THE INCREASING DEATH RATE IN PEOPLE PAST MIDDLE LIFE AND THE POSSIBILITY OF ITS REDUCTION.\*

Chas. J. Whalen, M.A., M.D., LLB.,  
Chicago, Ill.

*Members of the Illinois State Medical Society:*

I am sensible of the honor you have conferred on me by calling me to preside at the sixty-fourth annual meeting of the Society. I am deeply conscious of the privilege I enjoy and the responsibility that rests upon me in delivering a message to this organization concerning the source of power for lifting some of the burdens of humanity. My theme for the annual address of the president is, "The Increasing Death Rate in People Past Middle Life and the Possibility of Its Reduction." It is rather a new theme, but one that should present itself to thoughtful minds as timely, being intimately associated as it is with our present welfare and future happiness.

It is my purpose in this paper to show by reliable statistics, first, that the death rate after middle life has increased, and, second, to consider some of the elements which enter into the mortality preventions after middle life and to show what the possibilities are for the control of conditions responsible for the increase.

The phrase "prolongation of life" or the lowering of the death rate constitutes the warrant for the conditions to be described in this paper; a further warrant for its consideration lies in the promise that it offers, not of mere mathematical increment to the years of life, but an increase in the meaning, the power and the satisfaction of existence; not merely longer life, but better life.

When does the average individual begin to grow old? The postponement and banishment

of old age has been the dream of mankind for thousands of years. The old time alchemists spent many long, toilsome days in fruitless search for the philosopher's stone, which was confidently believed would transform the old man into youth.

"How long can the execution of this death sentence be postponed?" This question was in effect answered three thousand years ago, when the psalmist said, "The days of our years are three score years and ten."

Let us study existing conditions for a moment and see if the doctrine holds good at the present time.

In 1870 in Chicago the expectation of life at the time of birth was 13 years, and in 1910 it was 35 years, an addition of 22 years or 170 per cent increase to the average person. The following table shows the decrease and increase of mortality by age periods since 1880 in the registration area:

Age—	Per Cent
Under 20, decrease.....	17
20 to 30, decrease.....	11.8
30 to 40, decrease.....	2.3
40 to 50, increase.....	13.2
50 to 60, increase.....	29.2
Over 60, increase.....	26.4

The United States mortality statistics show that the general death rate in the United States registration area declined 24 per cent from 1880 to 1909; that in people below 40 years of age the decrease was 17.2 per cent and that in people above 40 years of age it increased 26.8 per cent. Further analysis shows that the decline in the general death rate occurred chiefly in the diseases of children and early adult life and came wholly from diseases of the communicable class.

On the other hand, diseases over which sanitation has no control have increased; for instance, in Chicago, cancer increased from 2.96 per ten thousand to 6.70, an increase of 126 per cent for the period 1870 to 1910.

\*President's address, delivered at the 64th annual meeting of the Illinois State Medical Society, at Decatur, May 20, 1914.

Bright's disease for the decade ending 1880 was 1.87 per ten thousand of population; for the decade ending 1890 was 3.85; in 1900, was 5.92; in 1910, was 9.61, or an increase of 414 per cent for the period mentioned.

Heart disease in the same period increased from 5.24 to 12.06, an increase of 129 per cent.

Total diseases of the circulatory system per ten thousand population from .70 in 1870-80 to 1.62 in 1901-10, an increase of 131.4 per cent.

Apoplexy and arteriosclerosis per ten thousand population from 3.76 in 1870-80 to 4.70 in 1901-10, an increase of 25 per cent.

#### *Increase in Various Localities.*

Diseases of kidneys and heart and apoplexy combined, per ten thousand population, United States registration area, increased 83 per cent.

Apoplexy—	Per Cent
Massachusetts, increase.....	135
U. S. registration area.....	84
Kidney diseases—	Per Cent
Chicago, 1870 to 1910.....	414
Connecticut, 1880 to 1907.....	139

Table showing comparative increase, 5-year periods, 1901 to 1905, 1906 to 1910, U. S. registration area per 10,000 population:

	1901 to 1905	1906 to 1910	Increase Per Cent
Apoplexy .....	6.96	7.17	3
Cancer .....	6.79	7.26	6
Circulatory system.....	16.12	17.77	10.2
Heart disease.....	12.42	13.32	6.8
Diseases of arteries.....	.94	1.77	88.3
Prostate .....	.26	.34	3

The most reliable records available for showing the degenerate changes giving age divisions in 1880 are those of Massachusetts.

#### DEGENERATIVE DISEASES

Massachusetts, 1880-1909, Increase in the Death 10,000 by Age Periods	Rate per Per cent
Ages—	Increase
All .....	23.21 43.26 86.38
Under 5.....	7.92 10.36 30.8
5 to 9.....	2.91 3.95 35.7
10 to 14.....	2.85 4.72 65.6
15 to 19.....	3.10 5.43 75.2
20 to 29.....	4.95 8.09 63.4
30 to 39.....	10.13 18.79 85.5
40 to 49.....	19.70 37.84 92.1
50 to 59.....	39.01 91.30 134
60 to 69.....	102.05 212.93 108.7
70 and over.....	261.1 558.2 113

Included in this group are apoplexy, paralysis and diseases of the heart, circulatory system, kidneys and liver.

This table shows also that, while the death rate in children and early adult life from degenerative diseases are relatively small, they show a sufficient increase, especially at ages 10 to 20. In

the natural order of things these affections should be confined to old age, but that these degenerative changes are reaching down into the younger ages, cutting off thousands of lives in the most useful period of their existence is shown by the above table.

The following table shows the comparison in a smaller group up to 1910 by certain States and cities:

#### ORGANIC HEART, APOPLEXY, KIDNEYS.

	Rate from	Inc. to	Pct. Inc.
Sixteen cities <sup>1</sup> , 1880-1910.....	17.95	34.78	94
New Jersey, 1880-1910.....	16.52	34.30	108
Ten registration states <sup>2</sup> , 1900-1910.....	30.67	36.46	19

It will be noted that the increase continues from 1900 to 1910 in the ten states, which include a larger proportion of rural population than Massachusetts and New Jersey. The curves vary in different states and cities, but the same general trend is observant wherever statistics are available.

The following table helps to concentrate attention on the diseases and condition which cause the larger part of the mortality at the advanced stages. It includes cancer, diabetes, apoplexy, organic heart disease, diseases of the arteries, cirrhosis of the liver and Bright's disease. Together, they form 51.4 per cent of all deaths at age 40 or over in the registration area. It shows the rate per ten thousand for each one of these causes for the years 1900 and 1910 respectively in the registration states:

Cause of death—	1900	1910	Pct. Inc.
Cancer .....	6.35	8.29	30.6
Diabetes .....	1.10	1.76	60.0
Cerebral hemorrhage and apoplexy .....	7.25	8.61	18.8
Organic heart disease.....	11.60	16.16	39.3
Disease of arteries.....	.52	2.58	396.2
Cirrhosis of liver.....	1.26	1.44	14.3
Bright's disease.....	8.10	9.57	18.1

This table shows that in the seven diseases mentioned the rate is 33.8 per cent higher for 1910 than for 1900. The largest increases are to be observed in the circulatory diseases, arteries, heart, etc., the former having increased approximately 400 per cent in ten years.

1. Sixteen cities: New York, Chicago, Philadelphia, Brooklyn, St. Louis, Baltimore, San Francisco, Cincinnati, Cleveland, New Orleans, Pittsburgh, Washington, Milwaukee, Louisville, Providence, Indianapolis.

2. Registration states in 1900 were: Massachusetts, New Jersey, Connecticut, Maine, Michigan, New York, New Hampshire, Rhode Island, Vermont, District of Columbia and Indiana. Indiana is omitted in comparisons owing to lack of uniformity in age distribution.



## DEGENERATIVE DISEASES.

Taking the whole list of degenerative diseases, so as to avoid inaccuracy in tabulation and classification for the 30 years 1880 to 1909, as reported in the registration area, it shows an increase of 104 per cent (that is, for affections of the heart, blood vessels, kidneys). Of interest in this connection is the percentage of increase due to degenerative changes by age periods since 1880, as follows:

	Per Cent
Below 20, increase.....	17
20 to 30, increase.....	33
30 to 40, increase.....	32
40 to 50, increase.....	60
50 to 60, increase.....	94
60 and over, increase.....	92

The very heavy increase in the mortality from degenerative diseases during the most productive years of life, amounting to 60 per cent between the ages of 40 and 50, illustrates the degree of life strain that affects our people; it shows also that the increase does not fall solely among the aged, but reflects a deplorable and unnecessary loss among those in the prime of life.

The estimated loss of life in the United States from degenerative diseases based upon registration records is 235,660 for the single year 1909, and for the ten year period from 1901 to 1910, 2,882,112; on the same basis the computed loss of life from 1910 to 1920, due to degenerative diseases will be 4,167,739. Half of these would not die if the average health from middle life upward was as good as it was 30 years ago.

The following diseases are deserving of detailed consideration, namely: cancer, Bright's disease and diabetes.

For cancer the death rate in the registration states for 30 years, 1880 to 1910, shows an increase of 104 per cent; 67 per cent of this increase occurred between the ages of 40 and 60 years. The average age at death from cancer was 59 years; but 83 per cent of the deaths for 5 years, 1906 to 1910, occurred above 45 years of age.

In Massachusetts, New Jersey, and in 16 American cities, the government report indicates an increased mortality of 100 per cent in the past three decades.

The cancer death rate in the registration area of the United States in 1911 per 10,000 population was .78; in England and Wales, .97; the

highest rate was in Vermont, 10.1; the highest city was Albany, 12.3; in the colored population it was but 5.7 per 10,000 living.

While cancer has increased in younger ages, its greatest advance has been in middle age and old age. In ten states, 1901 to 1911, it increased as follows:

	Per Cent
Age 45 to 54.....	14
Age 55 to 64.....	31
Age 65 and over.....	45

Combining all ages for the ten year period, 1901 to 1910, the increase in the male cancer was 29 per cent and in the female 23 per cent; in other words, the number dying from cancer at the present time is about 25 per cent greater than ten years ago.

In the absence of any knowledge as to the specific cause of cancer, its non-preventability seems to be taken for granted by the public and even by many physicians. Probably one-fourth of the death rate of this malignant disease is due to the ignorance or neglect of its early manifestations, and another fourth to procrastination in seeking surgical relief after the disease is positively recognized.

Bright's disease, so-called, is a disease of civilization. They advance together. It has been described as a disease of rich food, strong drink, close confinement, sedentary occupations and mental strain. In short, it is caused, as a rule, by improper living habits. The terrific increase in the mortality from nephritis is noted wherever comparative statistics have been kept; for instance, in Chicago in ten years it has increased 47 per cent; in Memphis, 50 per cent; in Richmond, 106 per cent, and in New York, 132 per cent. In the registration area this increase was highest in New York, 132.0, and lowest in Montana, 52.0 per cent. In the registration area in 1911 the death rate among the whites per ten thousand was 9.43, and among the colored, 17.04; in the cities the rate was 11.27; in the rural sections, 7.50; in the registration area 82 per cent of the deaths from kidney disease were among people about 40 years of age.

Diabetes: While the definite causative factor is still obscure, research directed in the field of chemistry of metabolism has done much towards checking the course of the disease, especially in early cases. We are rapidly coming to a realiza-

tion that in many cases of the disease the underlying cause is found in derangements of metabolism.

**Unmarried Adults.**—Another factor operating to increase the death rate after middle life is the number of unmarried people in excess of their proportion to the marriagable population; namely, 17,000,000 unmarried people in the United States divided as follows: 9,000,000 unmarried women above age 15; 8,102,000 unmarried men above age 20; 7,226,000 of these men are between ages of 20 and 44; 500,000 are between ages of 45 and 54. The mortality statistics of married and unmarried people is shown by the tabulation of Prof. Wilcox of Cornell University. These statistics cover the population of the State of New York excepting Buffalo and New York City.

Comparing the death rate of unmarried with that of married men, and of unmarried with that of married women, we get the following results:

	Death Rate	
	Unmarried Men Per Cent Greater	Unmarried Women Per Cent Greater
Ages 20 to 29.....	57	18*
Ages 30 to 39.....	119	17
Ages 40 to 49.....	105	22
Ages 50 to 59.....	69	37
Ages 60 to 69.....	60	32
Ages 70 to 79.....	39	43

\* Less.

Why should the death rate of single men be so much higher than that of married men in the same age group? Why should the death rate of single women also be higher than that of wives? Above group 30 to 39 the death rate of husbands is greater than that of wives. Why is this so? These are problems well worthy of study. Lack of time prevents their consideration in this paper; but that it has a bearing on the death rate is quite apparent.

#### FACTORS.

Let us now proceed to discuss the factors which are believed in a large measure to be responsible for these conditions.

There are some who believe that the increase in the death rate after middle life is due to the saving of lives in the younger ages; that these lives pass into the older periods, many of them with weakened power of resistance. It is true that a large proportion of our city babies died

only a few years ago and that we now save them, but it remains to be seen whether they grow up with that vigor and physique which is necessary for efficiency. If we can form any judgment at all now, it is to the effect that we are only postponing the extinction of these types a generation or two. There is no question but that this feature will have a marked bearing on the future death rate for the periods above 40 years. That it is not a factor at the present time in influencing the mortality for these periods is well illustrated in Chicago, where the saving of infant mortality has been so recent that none of them have passed into the older age periods; yet, notwithstanding this, the death rate from degenerative diseases has increased by leaps and bounds for the last thirty years.

**Alcohol:** The relation of drink to longevity has of late been receiving considerable attention. Every analysis of the mortality of persons employed in the manufacture and sale of alcoholic beverages sustains the conclusion that the death rate in general is excessive.

The effects of intemperate use of alcohol upon middle age mortality is best illustrated by the reports of the United Kingdom Temperance and General Provident Institution of London, an insurance organization. This company placed the abstainers in a class separate from another carefully selected list about equal in number, all supposedly moderate drinkers. The death rate among the abstainers for the past 40 years was 27 per cent lower than among the general class.

In 1880 the per capita consumption of alcoholic beverages was 10.08 gallons; in 1909 it was 21.85 gallons, an increase of 117 per cent. Since 1880 the death rate in registration states from degenerative diseases, in which alcohol is conceded to be an important positive factor, has increased 104 per cent. That alcohol is the sole, or even the chief, cause of this increase cannot be authoritatively stated, but that it is a powerful factor is undeniable.

Metchnikoff advances some notions pertaining to the mechanism of senility. He believes that the phagocytes after defending a man's body against the invasion of deadly microbes for many years, finally become traitors and turn upon their host in his old age and attack him viciously. These traitorous phagocytes have received vari-



ous names, depending upon the tissues they choose to attack; for instance, those that attack bone are osteoclasts. The lime salts thus absorbed from bone are taken up by the circulation and deposited in various organs. While they were an unmixed benefit in the old man's femur, they become an unmitigated curse when transferred to his aorta.

**Autointoxication:** As to the real nature of the toxemia of supposed alimentary origin, little is known. While much is known of the bacteriology of the alimentary tract, little is known of the bacteriology of alimentary toxemia originating in the gastro-intestinal tract.

However, autointoxication or alimentary toxemia is now accepted as an established pathologic condition capable of producing sufficient poison to cause degenerative changes in various tissues and organs. We know how powerful these toxins, bacterial or pathologic, are, and that a very small quantity often suffices to cause great disturbance. Recent investigations in renal pathology have shown the very important role played by autointoxication in kidney diseases. It requires but a moment's reflection to appreciate the extent to which abnormal waste products brought to the kidney for elimination (if for any reason elimination cannot take place), can irritate the cells of this organ. Conditions in other organs may be very similar.

At present the consensus of opinion is that arteriosclerosis, diseases of the heart and kidneys, rheumatoid arthritis, cancer, tubercle; in fact, all diseases, whether designated bacterial, parasitic, nervous, mental or physical, are either directly or indirectly influenced in their course by putrefactive processes going on in the alimentary canal.

As we go deeper into the pathology of waste retention, we note the resulting phenomena from autointoxication, as, for instance, the circulatory changes, especially the increase of blood pressure. Is it not reasonable to believe that many, if not all, of the degenerative diseases are closely related to faulty elimination or autointoxication?

Certainly the time is at hand when deficient elimination must be looked to as the main etiologic factor in many serious diseases, both organic and infectious. Consequently, the first evidence or even suspicion of waste retention must receive

the most painstaking and thoughtful consideration.

Bacteria are indispensable to the digestion of some food, but the important thing to know is that too much decomposition of food in the alimentary canal, without sufficient muscular exercise to bring about combustion sufficient to burn it up, is going to result in the same thing that happens when a furnace is overloaded and the air is excluded. It brings about the same process that happens in a garbage can when it is not emptied completely and frequently enough.

#### CAUSATIVE FACTORS.

That conditions in life in earlier ages have an influence on later mortality is apparent. Heredity or the physical endowment at birth must be considered as a causative factor of degenerative diseases after middle life. Diseases of early infancy have also a bearing upon the question; for instance, heart disease, Bright's disease and impaired vitality are frequently sequelæ of acute infections of early life. How frequently do we see chronic nephritis following in the trail of scarlet fever and diseases of the heart and vascular system? These impairments go unnoticed until, under the stress of middle life, they terminate in one or another of the degenerative diseases.

*The Mind in Longevity:* The mind has much to do with health and longevity. Especially is this true when one is past middle life. At this period it is probable that more lives are shortened by worry than by either overwork or exposure.

*Veneral Diseases:* The habits and mode of life have their effects upon the mortality at the later ages. The venereal infections have a decided effect upon the mortality at the later ages from the serious circulatory, nervous and genito-urinary diseases which they induce.

*Occupation* is one of the most important factors contributing to middle life mortality. The character of modern industry has completely changed in the last 50 years, and we must consider the objective phases of occupation which are inseparable from present day working conditions. The presence of large numbers of workmen under one roof brings about new and distinct problems of hygiene in industry. It also raises the question of purity of the air supply, its temperature and humidity, the adequacy of natural and artificial light, and many minor details

which in their entirety markedly affect the health conditions of the workman. We must also consider the factors of dust, fumes and poisons, which play a significant part in present day occupational mortality. That early occupation bears a relation to degenerative diseases after middle life is easily confirmed by the study of mortuary statistics, which are all loaded with indications of occupational poisoning of some sort in early life.

This is an age of high pressure, of fast living. The rapid growth of our country, the enormous increase of business due to the development of our natural resources, and the consequent tendency toward the concentration of population about business centers, has greatly altered the national mode of life. From the simple outdoor life of our forefathers, we have become—as the most enthusiastic optimist must admit—a race of dispeptic money getters, whose highest ambition is too often the almighty dollar, and whose chief regard for health lies in the fact that its possession assists in the making of money.

The increase of American life strain is not alone due to the high pressure of modern existence. One element of our population is undoubtedly deteriorating from overstrain, due to excessive physical and mental exertion. Another large group is suffering from the excesses of indolence and physical inactivity. The automobile has brought many people into the open air, but has added to the nerve strain and encourages physical inertia, overeating and drinking, all of which promote physical degeneration. The tendency of most modern invention is to reduce physical exercise and to encourage obesity.

In America there are today hundreds of thousands of people who go on and on abusing their bodies until disease sets in. This has been going on since Alexander wrecked a great life by dissipation; since the age when Rome fell, not because of foes without, but because of licentiousness within; since the days when Waterloo was lost by reason of Napoleon's weak stomach.

It does seem a pity that our civilization has not yet developed into a form which would be as favorable to the valuable lives of middle life and early old age as it is to the young, but it looks as if for a long time to come we shall have to count on a higher mortality at the older age periods.

My reason for this belief is that we are all, as a nation, living too well.

From the foregoing it is very apparent that the stress of our rapid and complex existence, together with excesses or errors in eating and drinking, are the largest factors of breaking down the resistance to affections peculiar to middle life and old age. Probably 50 per cent of all cases of disease could be prevented by reasonable hygienic precautions, and the cultivation of life habits which tend to neutralize the strain of modern existence and build up a resistance to degenerative diseases in general.

The secret of prevention of degenerative diseases lies in the recognition of their earliest signs in an individual, and this can only be determined by frequent examination. The principle of frequent examination is applied by business or government to banks, steam boilers, steam vessels, life preservers, garbage cans, etc.; in fact, to almost every institution or machine employed by man that can possibly go wrong, excepting the most delicately adjusted and wonderful machine of all—HIS BODY.

We inspect our school children. Why neglect the parents, many of whom are seriously out of touch with nature and heading for physical breakdowns without the slightest consciousness of their danger? What is the use of inspecting and condemning poisoned food if we keep on unconsciously manufacturing poisons within our own bodies? The egotistical confidence of the average individual in his physical soundness is in a measure a physiologic protection against neurasthenia, but it is not a protection against arteriosclerosis, Bright's disease, etc.—conditions that often do not warn of their presence until it is too late to check them.

If we can by frequent physical examination add five, ten or more years to the average longevity of people past middle life, it would be a valuable national asset. While I would not go so far as to state anything definite as to the average increase of longevity that might be brought about, I do believe that it is possible in this way to add materially to the span of life.

With the modern methods of diagnostic precision, we would be able to detect and remove the cause, be it endogenous or exogenous, bacteriologic, dietetic, social, occupational or psycho-



logical; whether found in the habits of the individual, or in the instincts and experiences dating back to childhood and infancy such as may be acting to produce the functional disturbances leading up to the development of gross pathology. Only in this way can the problem of reduction of middle age mortality be solved. In this way we will be able at the earliest possible moment to correct the business, social and domestic conditions which make such heavy demands upon brain, nerve and artery in order that a greater degree of bodily resistance may be built up to offset debasing influences. Just as in business life we draw largely upon modern inventions and the resources of science to increase efficiency, so must we avail ourselves of such knowledge as science now affords us in the care of our bodies and in the systematizing of our lives, to the end that economy of bodily resources shall be considered just as important as the conservation of natural resources.

In the matter of diet moderation is the watchword, especially as middle life approaches. In this way the possible harm from foods that are questionable will be limited. Simplicity in diet is another safeguard. Some people go down the whole list of proteins or animal foods in a single day, or even at a single meal. Form simple dietetic habits that keep you feeling well and maintain your weight a little below the average, and then dismiss the food question from your mind. Follow the same plan with exercise. Work is a life saver, if not pursued to the extent of mental or physical exhaustion.

In a general way, the best safeguards are temperance in all things, mental poise, patience, courage and the avoidance of unrest and needless overstrain in meeting the complexities and problems of existence.

"So live that when thy summons comes to join  
The innumerable caravan which moves  
To that mysterious realm, where each shall take  
His chamber in the silent hall of death,  
Thou go not, like the quarry slave at night,  
Scourged to his dungeon, but, sustained and  
soothed

By an unfaltering trust, approach thy grave  
Like one who wraps the drapery of his couch  
About him, and lies down to pleasant dreams."

## ROENTGENOGRAPHY IN THE DIAGNOSIS OF THE DISEASES OF CHILDREN.\*

J. P. SEDGWICK, M. D.  
MINNEAPOLIS, MINN.

The rapid advance in the use of Röntgen rays in internal medicine is attracting a great deal of attention. The use of the x-rays in surgical work developed very rapidly after Röntgen's discovery so that an enormous literature is now at our disposal. It is owing to technical difficulties that the study of the softer parts by this excellent aid has followed that of the bones and denser tissues.

In this discussion the subject will be considered from the standpoint of the general practitioner and pediatricist. The finer points of technic and apparatus may well be left to the professional röntgenologist.

Two additions to our apparatus have given this work a great impetus. The new and powerful machines of the "Snook" type have made rapid exposures possible. When we add to this the modern intensifiers we are able to take practically instantaneous pictures. It is possible, today, to take excellent plates of the infant's thorax in 1/25th of a second. Another important point in the work with children is the use of soft tubes, as low as 3 to 4 Wehnelt units.

Most of the literature upon this subject is still in the special journals, such as the *American Journal of Diseases of Children*, *Archives of Pediatrics*, *Zeitschrift für Kinderheilkunde*, *Monatsschrift für Kinderheilkunde* and *Archives des Maladies des Enfants*, but we have one text by Rotch, which is, however, being rendered a back number by the rapid advances, and also the German work of Paul Reyher. These should, of course, be supplemented by the many excellent texts and atlases of the general subject of x-ray diagnosis.

The normal development of the centers of ossification during childhood may be followed by the radiogram. Rotch has even suggested that this progress of ossification represents the true age of the child more accurately than does the usual chronological standard.

The wrist may be used as the index. The

\*Oration on Medicine before the 64th Annual Meeting of the Illinois State Medical Society, at Decatur, May 21, 1914.

centers for the os magnum and unciform bones appear soon after birth, that for the cuneiform during the second or third year. The center for the styloid process of the ulna appears during the fourth year, for the semilunar one year later, the trapezium about the fifth year, the scaphoid cen-



Plate 1. Normal Wrist of 3½-Year-Old Child. Three Centers of Ossification.

ter toward the sixth year and the lower epiphysis of the ulna from the fifth to the seventh year. Roughly, the age of the child from the second to the seventh or eighth year is expressed by the number of centers in the wrist.

Rotch wished to make variations in the normal rate of ossification the basis of study of the mental and social capacity of the individuals.

It is because the bones in children are normally undergoing changes which may be interfered with in character, delayed, or accelerated, that the radiographic study of osseous pathology becomes important in children.

Plate 1 is from the wrist of a normal child 3½ years old as the number of centers indicate.

Plate 2 is, however, from a child of 4¼ years. The number of centers is greater than we should expect. The child is also very advanced mentally.

*Achondroplasia, Chondrodystrophia or Micromelia.* This condition, which is responsible for the short-armed, short-legged dwarfs, is due to the interference with epiphyseal cartilages early in gestation. The röntgenogram, plate 3, shows

the long bones to be greatly shortened. There is often overgrowth of their ends transversely. The zone of proliferation is narrow and shows a very sharp demarcation.

*Osteogenesis Imperfecta, Fragilitas Ossium.* In this condition the children's bones are subject to repeated fracture, the reason for which is shown in the x-ray plate by their translucency.

Scurvy, although not strictly a disease of childhood, is under our conditions much more common among artificially fed infants than with adults. The subperiosteal hemorrhages can be demonstrated by means of the x-rays.

In oxycephaly or the steeple-shaped head the Röntgenogram is very characteristic. The grooves in the skull formed by the pressure



Plate 2.

atrophy from the cerebral convolutions can be very plainly seen.

In rickets the end of the diaphysis is large and the epiphysis relatively small and ragged. The zone of proliferation is wide and poorly defined. The shaft of the bone throws a poor shadow and various curvatures may be present.





Plate 3. Chondrodystrophia.

In syphilis the most characteristic lesions are osteochondritis which can be demonstrated in the first few months only; periostitis and the transverse shadow at the epiphysis. Plate 4.

Bone tuberculosis belongs rather to the orthopedist's field and the radiographic findings are well known.

Myxedema is characterized by the slow appearance of the centers of ossification. This is usually studied in the wrist.

In mongolism, or mongolian idiocy, the short, plump hand is seen and at times there is incurvation of the little fingers. There is an irregularity, either an advancement or a retardation of the appearance of the ossification centers. Plate 5.

The so-called osteomalacia of infants has been a subject of considerable discussion. It is sometimes classed under fetal rickets. Without going into the pathology, this plate shows the marked deformity of the bones, as well as the lack of mineral salts. Plate 6.

Of even greater interest, however, is the recent work on the softer tissues. In the chest the use of the x-ray as an aid to diagnosis is becoming more and more important. When I visited von Pirquet's Clinic in Vienna, last summer, I found that a picture was taken of each child's chest as a routine. The story is told that, in one of the Vienna clinics, a child was demonstrated at 8:30 in the morning as a case of meningitis and at 10:30, two hours later, to another class, as pneumonia with cerebral symptoms. In the

meantime an x-ray examination had shown a shadow which cleared up the diagnosis.

I shall show you first the picture of a normal chest, with the characteristic hilus shadow, which is supposed to be due to the bronchi or vessels or both. Plate 7. One illustrated the value of a



Plate 4. Syphilis.

negative finding. In this case I saw the child and discovered an otitis media. An otologist was called in and after opening of the tympanum the temperature went down. A day or two later the discharge from the ear had ceased, but the temperature went up again to 105° F. and

stayed there for several days. Auscultation of the chest showed numerous rales, but no dullness. The x-ray examination was negative. The otologist examined the ears repeatedly, but insisted that the temperature was not caused by them. It was inferred in spite of my protestations that there was a pneumonia which was not diagnosed. The ear drum ruptured in the middle of the night with disappearance of the symptoms, much to my relief, justifying the reliance placed in the x-ray findings.



Plate 5. Mongolism.

This case I saw in consultation one evening and found a questionable dullness in the right lower back. To confirm this the child was examined by x-ray the next morning. Just before putting the child on the table, however, I went over the chest again and the signs were so indistinct that I thought I had made a mistake the evening before. It was very interesting to me

to see how much plainer the lesion was shown on the plate than by the ordinary means of diagnosis. Plate 8.



Plate 6.



Plate 7. Normal Chest.

The plate is taken from a child that I saw in consultation and thought I demonstrated a pneu-



monic area in the right chest. The findings were so indefinite that my colleague was still in doubt. We were both convinced by this shadow the next morning and on the day following, the third, the dullness and bronchial breathing were very plain in the same area. Plate 9.

This plate shows a condition which is very seldom diagnoses except by röntgenography; enlarged peribronchial glands. Care must be taken not to confuse the normal hilus shadow with shadows due to enlarged or calcified lymph nodes. Reyher considers a shadow more than three millimeters in diameter to be suspicious. When there is doubt it is better to give a nega-

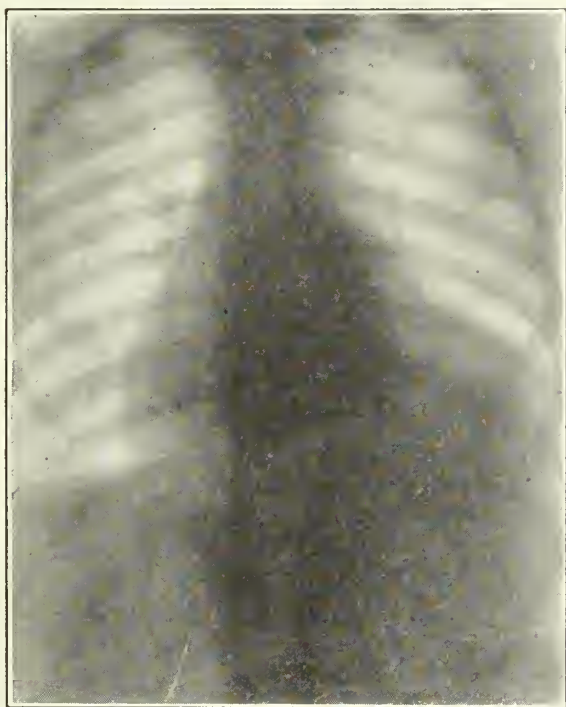


Plate 8.

tive report. This boy gave, however, a positive von Pirquet skin test and had symptoms which cleared up with fresh air and proper hygienic treatment. Unfortunately, as St. Engel has shown, most of the enlarged glands of the chest are covered by the heart shadow, thus rendering the diagnosis difficult. When we consider, however, that this is probably the most common and early form of tuberculosis in children, the importance of such examinations is apparent. Plate 10.

In miliary tuberculosis of the lung our ordinary means of diagnosis fail us, but the x-ray

plate shows a characteristic and pathognomonic mottling. This child had indefinite signs of a miliary tuberculosis and died a week later. Plate 11.

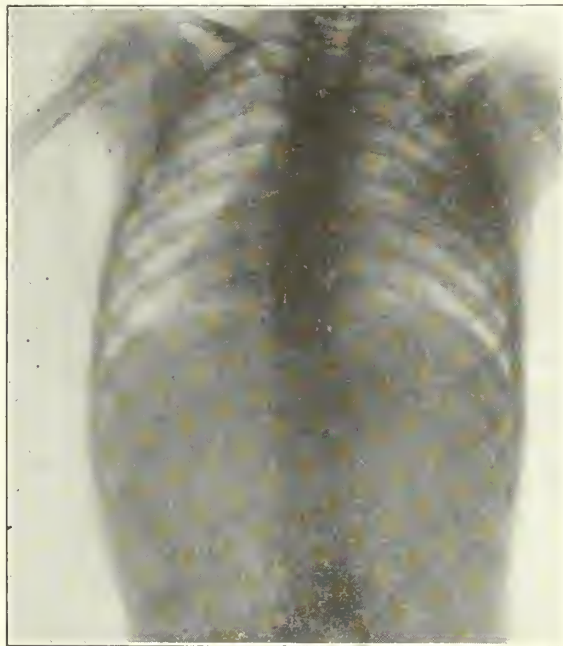


Plate 9. Consolidated Area in Right Lung.

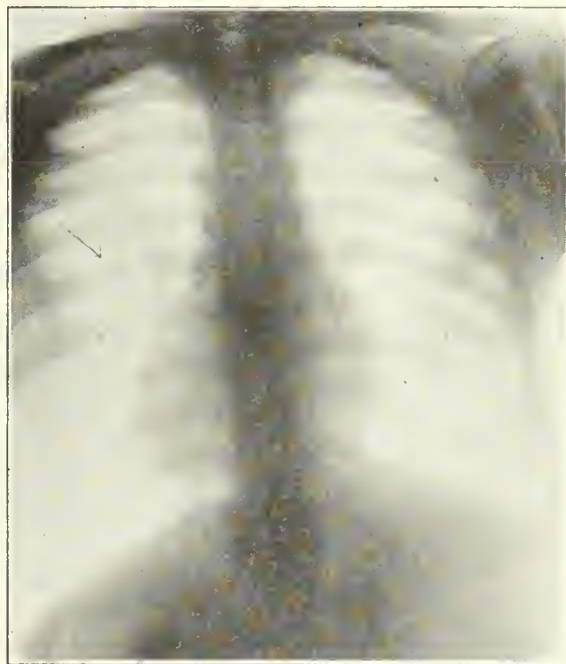


Plate 10. Shadows of Enlarged Peribronchial Glands.

This is from a child that died following rheumatism, chorea, pleurisy with effusion and pericarditis. The postmortem examination



Plate 11.

showed adhesive pericarditis and some congestion of the lung, but no pneumonia. Plate 12. This child had a dilated heart.

This is a picture of a child with an enormously dilated heart in which the demonstration of the so-called cardio-hepatic angle, convinced us that



Plate 12.

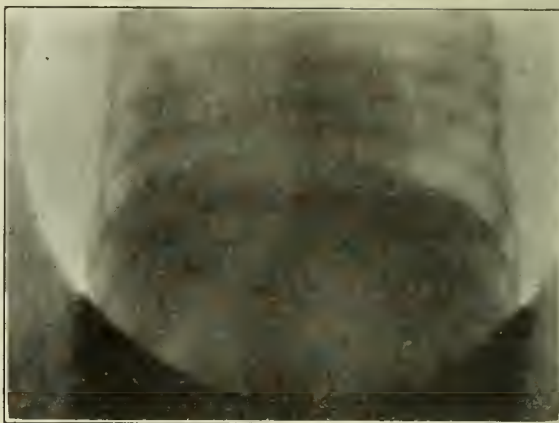


Plate 13. Dilated Heart. Arrow Points to the Cardio-Hepatic Angle.

there was no fluid in the pericardium. Plate 13.

This plate shows a shadow involving most of the left chest. This, although very extensive, was not due to fluid, but consolidation of the whole left lung, probably tuberculous. Repeated punctures with the needle failed to reveal any fluid in the chest. The baby's general condition was quite in accord with the physical and röntgenographic findings. Plate 14.

*Neck.* In the neck it is sometimes possible to demonstrate the enlarged cervical lymph nodes, especially when the process is old enough to contain some lime salts. In the acute cases, however, only the diffuse swelling of the soft parts can be demonstrated.



Plate 14.





Plate 15.

*Abdomen.* By the aid of the bismuth or barium compounds it is made possible to outline the hollow viscera and obtain an idea of the movement of their contents. The unfortunately common stenoses of the esophagus which follow the ingestion of caustics can be demonstrated by this means.

This plate shows a mild gastropnoxis in a child with general splachnnoptosis, flat feet and other



Plate 17.

indications of loss of tone. The umbilicus is shown by the shadow of a button. Plate 15.

Great stress was laid upon the size of the infant's stomach when we were students. We now know that a normal infant at the breast will



Plate 16.



Plate 18.

take more at a feeding than it was thought then that the stomach could hold. This is due in part, of course, to the fact that the stomach is distensible, but is largely also because the stomach begins to empty its contents into the duodenum within a few minutes after the injection



Plate 19.

of food. This can be clearly seen in this plate which was taken within less than five minutes after a bismuth meal was given by tube. Plate 16.

This plate is also one of a series which was taken to determine whether the case was one of pylorospasm or pyloric stenosis. This is of considerable importance as the pylorospasm cases give good promise of complete recovery without surgical procedure. As can be seen, the food began leaving the stomach within five minutes. Plate 17. Large quantities of the contents had left the stomach 20 minutes later. Plate 18 shows the bismuth throughout the abdomen 1½ hours after feeding. Very marked peristalsis is often seen on such plates as well as the surprisingly large gas content which we now know to be normal in the infant. The later pictures show also that a pyloric stenosis is out of the question. With gastric lavage and proper dietetic measures this babe improved steadily, and the vomiting gradually ceased. The importance of this finding will be recognized when the high mortality of gastro-enterostomy in young infants is considered.

This next series of plates is from a case which appeared clinically to be suffering with Hirschsprung's disease. The serial pictures showed, however, that there was no marked anatomical obstruction and the further course under proper treatment justified this conclusion. Plates 19 and 20.

The x-ray is often the only way to diagnose conditions in the mediastinum. An enlarged thymus can be demonstrated in this manner. One plate was taken from a postscarlatinal involvement of the glands of the mediastinum, which accompanied a very marked cervical adenitis. In this case, however, the child had improved and the picture could hardly have been interpreted as such without the knowledge of the dysphonia, dysphagia, bulging and dullness over the manubrium which had gone before. The child recovered completely.

Many peculiar foreign bodies are swallowed by children. Some are innocent while some are dangerous. Plate 21 shows a pacifier which was followed on its way through the alimentary tract. The guard had become lost and the mother in

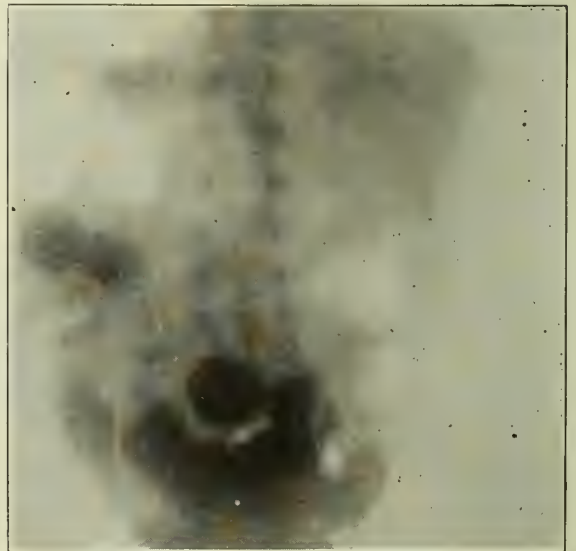


Plate 20.

her hurried attempt to remove the nipple from the mouth, pushed it into the esophageal opening. When it is an open safety pin that is swallowed, it becomes even more important that its location be known.

More frequently, however, the tin whistle which the babe is supposed to have swallowed is



not found by the x-ray, but turns up later in the corner of the room. Even a negative finding is, however, of value in such cases.

Work with fluoroscopic screens has also a definite place in diagnosis in children. Many of the findings of the more tedious photographic methods may be obtained at once. The movements of the heart may be observed and at times the restriction of movement, as that of the diaphragm, aids in the diagnosis of pleurisy.



Plate 21.

In this presentation I have not attempted a complete survey of the field, but have simply desired to bring a few points of this very important branch to your attention.

More extended study of this aid to diagnosis, which is at times so difficult in children, will surely compensate us for our time and efforts.

SYNDICATE BUILDING.

#### ADDRESS TO THE GRADUATING CLASS OF THE CHICAGO COLLEGE OF MEDICINE AND SURGERY.

J. S. NAGEL, PH. G., M. D.,  
CHICAGO, ILL.

*To the Members of the Graduating Class.—*  
The man who assumes the honor which has been

Some of the plates of bone lesions were kindly loaned from the collection of Dr. E. S. Geist.

bestowed upon me this afternoon should deeply appreciate the responsibility that goes with it. I feel very keenly the honor, as any man must, who stands in the same relation to your university as I do today. Twenty years ago this same university placed in my hands one of its diplomas and conferred upon me a degree. In doing so, there was placed upon my shoulders a responsibility. Into my keeping was delivered a part of the good name of this university. It was in my power to bring credit or dishonor to that name.

Twenty years later, and the scene has shifted somewhat. My responsibility is greater. Into your hands your alma mater entrusts its future and it is given to me to address such words and such advice to you as will aid you to carry the burden with the greatest facility and to point out to you the quagmires into which you are apt to flounder.

Today marks one of the great epochs in your lives. It will be given to a few of you to experience a greater one. In time to come these graduating exercises will recall itself to you, and it is proper that I should speak such words as are in harmony with the occasion.

Your friends and well wishers are gathered here to aid in making this a memorable event and it would be distinctly bad taste for me to use this occasion to enunciate some dogma or to deliver a lecture on some advanced question in medicine.

When the last words have been spoken today, when the doors have closed behind you after these exercises, most of you will be asking yourselves, "Now what?" This is the day that you have been striving for for four long years. You have been all these years preparing yourselves to practice medicine. Today when these lights are turned low, you will find yourselves on the very threshold of that practice. All your hours of study, all your deprivations, all your anxieties have led to this hour. You must now solve the answer to the question, "what of the future?" Members of this graduating class, for four long college years you have studied and "crammed" and "boned." You have been lectured to and threatened and cajoled by a corps of one hundred or more teachers and demonstrators and now I am going to announce to you that from today on, you are going to begin to learn to PRAC-

TICE medicine. I hope it will not be necessary for any of my colleagues to pass among you and resuscitate some of you after this announcement. This will be a distinct shock to most of you, inasmuch as the high school graduate on his graduation day has no trouble in disposing of all the vexed questions of the day and consequently, why not you do likewise in medicine.

But all these years, you have been merely learning to add, to subtract, to multiply and to divide in medicine. Today you are handed a problem to solve. The entire curriculum has been so builded and all the energies of your teachers have been exerted to teach you the basic principles of the science of medicine. The application of these principles lies with you alone, and that is the meaning of the statement made a few minutes ago when I said that today you were to begin to learn to PRACTICE medicine.

Only the substructure of your professional career has been builded and now the superstructure is placed in your hands and the extent and firmness of both of these are dependent upon the underlying strata of mentality possessed by the individual. If this underlying strata be firm and full of energy, then the substructure will be well builded and ready to receive a superstructure of vast and broad proportions.

Today you are brim full and running over with knowledge of the various "ologies," but to apply this knowledge is quite another matter. In some respects the teaching of medicine of today is reverting to conditions prevalent about thirty years ago. In those days the embryo doctor "read" medicine with the old country doctor; in other words he served an apprenticeship first and then attended a course of lectures in some medical college. As the college course was lengthened this apprenticeship was gradually done away with and the embryo doctor passed directly from the college course to the practice of medicine and his patients paid for his course of instruction in the art of medicine. Today the course in the art of medicine is given in the hospital in the form of an internship, and I trust that all of you will supply yourselves with this course.

From a business standpoint, the practice of medicine is not particularly alluring. I might preface this phase of my talk with the title of that book which a few years ago held the attention

of the entire Christian world "Quo Vadis?" or "Whither Are We Drifting?" for drifting we are, and there seems to be shoals ahead of us.

The profession in Germany and England are already circling around the outer whirlpool of the vortex. We hear a great deal about commercialism in the profession today and yet you will find that neither God nor man has provided means of existence for the physician except that he commercialize his profession. True worth seldom finds recompense except the satisfaction that the individual himself obtains from a duty well done. Invent a corn cure of boric acid and water, fake the public, and all the civic bodies will gladly place you on their rolls as a man to be honored. Discover the cause of yellow fever, wipe out a scourge that has decimated the population and demoralized the commercial interest of some of our largest tropical and subtropical seaports and your widow and orphans will have the hat passed to pay off the mortgage on their home.

My advice to those of you who expect to become wealthy in the practice of medicine, is not to begin, for you will either be disappointed or you will be one of those who in no way will reflect credit upon the profession. The medical profession is the only profession or business that at all times strives to eliminate itself.

Day in and day out they are toiling and studying how to curtail the spread of disease and suffering. Two great problems are constantly in the minds of the honest and conscientious doctor, first, to prevent disease and, secondly, to restore those afflicted to the normal condition in the shortest time possible, and all this to the great detriment of his bank roll, and yet you have no business to be enrolled in this great profession unless you are willing to work earnestly along these lines. It is true that a great many wrongs are perpetrated upon the profession in the application of these principles of the hippocratic oath.

The nation and the state are guilty of gross impositions on the medical profession by not providing proper compensation for those engaged in safeguarding the health of the community and the care of the indigent. The body politic cannot be stronger than the blood that flows in the individual body corporeal, and therefore, the state



should recompense to some degree those whose work is devoted to maintaining a high standard and a high degree of efficiency of the body corporeal.

There is no sound reason why the doctor who cares for the indigent sick and maimed should not be properly paid. Not but that you should give freely of your services to charity, but that this should be demanded is not just.

Nor is this all. The medical profession in each state in this Union are constantly on the alert in their watchfulness of the laws presented to our law-making bodies; were it not so, every state would have on its statute books laws that would be inimical to the people and make them easy prey for the charlatan and the quack.

In the past few years at each legislative session in this state there have been presented bills for passage by the osteopaths and optometrists which, if they had become a law would have let down the bars and permitted a horde of these individuals to practice medicine and surgery. It has cost organized medicine many hundreds of dollars to defray the expense in defeating these bills. We have no quarrel with these individuals as to what their practice should be, but we object to lowering the standard by which they are to be admitted.

To all who apply themselves, I bespeak a modest competence and a fair degree of return on your capital invested, which is represented by your time and money expended in gaining your education. Some few of you will be able to declare larger and more frequent dividends. To my mind, one of the great obstacles in the financial path of the profession in general today is the attempt at centralization or rather concentration in the hands of a few.

Our giants in the profession have become imbued with the idea of "big business" and as there is no medical Sherman anti-trust law on our statute book, they bid fair to continue in their "wiser than thou" combination and to the detriment of the profession in general.

This concentration of the business of the profession is further seen in the limiting of the number of medical schools and the attempt, at least in this state, to place on the statute books a law to define who shall do surgery.

Further limitation of the present day medical man's field is to be found in our industrial and insurance world. Our large industrial institutions formerly paid no heed to the health and working conditions of their employees. They learned, however, from experience that the employee of healthy mind and body was of greater economic value to them than the reverse and they began to study the health conditions of their employees. Today, no industrial institution of any size is without its corps of trained nurses and physicians to give medical attention to its employees.

The insurance companies have discovered that the dead policyholder pays no premium and consequently many of them have taken to the field and are looking after the health conditions of their policyholders.

The nation and the state, while somewhat belated, have turned their attention to the health and living conditions of its citizens. In this state the Workmen's Compensation Act, the law prohibiting the employment of women more than ten hours a day, the factory inspectors' vigilance and the abolishing of the public drinking cup are all for the benefit of the human unit. Further, the nation, the state, and the local governments have been aiding in turning on the sunlight to our vice conditions.

But some of these limitations are more apparent than real. Limiting in one direction it opens up other fields for health officers and sanitariums. Our newly acquired possessions, especially, demand a large number of medical men trained in the laws of sanitation. Our army will constantly require young medical men of ability. In former years, the medical corps of the army were scarcely thought of until in a campaign the wounded began to arrive in the rear. Today he virtually precedes the campaign. Precedes it in the sense that he has prepared the soldier for the campaign. He has taught the soldier how to care for himself. He has taught the commander how to win battles by keeping up the efficiency of his fighting machinery to the very highest point and no more will it be said in a campaign that more soldiers die of disease than bullets.

Municipal and institutional fields will claim a

goodly number of you; consequently you need not feel too discouraged at the limitations that I have mentioned.

I have previously analyzed the medical situation somewhat, and now I shall pass to a few words of advice.

The day of sackcloth and ashes as the proper raiment for the doctor has passed, and along with it the hirsute facial disfigurement. Dress and comport yourself as a man who knows his business and is ready to do it. Keep yourself clean. Patients will be buoyed up and feel more cheerful, which will be an aid to your therapeutics.

Remember that the day is past when the whiskey-breathed tobacco-besmirched doctor is called because he must be smart on account of his eccentricities.

Enter into the spirit of the community in which you live. Seek such public office as will place you in a position to be of benefit to the community. It is a regrettable fact that the medical profession in this country have been negligent in not seeking public office. In this city of six thousand doctors, one only holds a legislative local public office nor are we represented in the state or national law-making bodies. In no other governmental body of any nation in the world is this same condition true. I hope that some members of this class will aid in changing this order of things.

With the first few dollars that you earn join your local medical organization. Remember that in union there is strength. The profession that graces you with its name has a right to demand something in return and that something is your support.

Do not gossip or repeat the confidential communications of your patients. Many times from the lips of your patients will come the story of not only physical, but spiritual wounds and suffering as well, and you are in duty bound to regard these as inviolable.

Members of this graduating class, it is now my pleasure to welcome you into the noblest profession of them all. In behalf of the faculty I extend to you the right hand of fellowship. I have these few words to address to you and my duty is finished. Be kind, be true, be honest, but above all be honest.

## APPENDICITIS IN INFANCY.\*

GEORGE EDWIN BAXTER, M. D., CHICAGO.

My experience with a case of appendicitis in infancy, the report of which appears in this paper, and the very high mortality of this disease in infants, have prompted me to give this subject more study and present it to you for your consideration and discussion. I have been impressed with the small amount of literature on the subject of appendicitis in the first two years of life, also with the comparative indifference with which some physicians and authors treat this subject, even to say that it is practically never to be considered in the diagnosis during early life. Because of the relative infrequency of appendicitis in infant life and because of the good which may be done these cases, I am limiting the scope of this paper to the occurrence of the disease during the first two years of life. The effort will be made to discuss only those features of appendicitis which are peculiar to this period.

In the cases that have been reported it has been shown that where the diagnosis was made early the mortality was correspondingly low. In the late cases of appendicitis where it developed into a general peritonitis the mortality was almost 100 per cent. In this connection I was interested in the following extract from a communication received from Dr. L. Emmett Holt, of New York: "The tendency to spread quickly to a general peritonitis always struck me more likely to occur than in older patients. The disease has had a high mortality in my experience, largely owing to difficulties in diagnosis, and the fact that a number of cases were not recognized until late."

Especial attention is given to diagnosis because of the difficulty in recognizing these cases and the cases are practically always seen first by the general practitioner and pediatrician.

*Report of a Case.* Baby K.; aged 18 months; normal birth; weighed at birth 8 pounds; nursed at breast for 10 months, subsequently fed on milk. At the age of 12 months developed an acute attack of gastroenteritis which lasted for some 4 weeks while the baby was in the country and for 3 weeks after its return to the city. Before the date of the development of appendicitis the child's health was very good with exception of three or probably four mild attacks of enteritis, lasting from two to three days.

\*Read at a meeting of the North Shore Branch, February 3, 1914.



Most of these attacks could be traced to errors in diet; the last two could not be attributed to any dietetic error. At the beginning of this illness the child was out walking with its father. Upon its return the mother noted that the babe was tired, vomited its evening meal, was peevish and irritable. She telephoned me the next morning to advise that the child was ill with what she felt was an attack similar to the previous mild attacks of enteritis. She was advised to stop the feeding and give a dose of castor oil and report later. I was called to see the child the next morning, and found that he was suffering with an acute abdominal pain and vomiting and some abdominal distention. No local tenderness could be elicited. The child had a temperature of about 102° and pulse of 110 to 130, depending upon the restlessness. It was noticed that there was much more fretfulness and much more pain than in any previous attack. The bowels had been thoroughly moved by the castor oil and subsequently the mother had given an enema with a reasonable discharge, some mucus, no blood. That night the child was cared for by the mother and a physician friend of the family who was staying at the house. It was noticed that he suffered very intense pain, crying and fretting almost all night, vomiting only once, no nourishment was given except barley water. The next morning the conditions were about the same with the exception of a great increase in abdominal tenderness and distention, and considerable abdominal pain; still no signs of localized inflammation were discovered. It was evident that the child was suffering more than one would expect from a simple enteritis and I felt concerned about its condition. About noon of this day the child began to vomit and upon my next visit in the early afternoon I found the child in a state of collapse, almost persistent vomiting of bile and dark liquid of a fecal character, more marked distress of the abdomen and great distention. A diagnosis of intestinal obstruction caused by general peritonitis probably resulting from appendicitis was made. The child was taken immediately to the Ravenswood hospital and operated on by Doctor G. W. Green. The appendix was found acutely inflamed, very much enlarged, perforated and a general peritonitis was present. Subsequent history of this case is that the child recovered from the immediate effect of the operation and lived for nearly three weeks. After a few days following the operation it was found that the intestinal obstruction was not entirely relieved and enterostomy was made which partly relieved the obstruction. The babe improved for the first ten days, but subsequently died from general sepsis.

This case illustrates the importance of early diagnosis. It was not until general peritonitis with the evidence of intestinal obstruction that the true condition of the patient was recognized. Appendicitis was thought of in the case, but was not given as serious consideration as it should have been because of its remarkable infrequency, the previous attacks

of enteritis and the lack of clean cut signs of the disease.

It is important in cases which have had recurring attacks of enteritis to be always on the lookout for possible localized tenderness in the region of the appendix. Indeed in this particular case I feel certain that some of the previous attacks must have been in a mild form attacks of appendicitis.

*Frequency.*—Regarding the frequency of cases of appendicitis in infancy, I took occasion to write to a number of men in this country who have had a good deal of pediatric and surgical experience and the reports received have been interesting.

Dr. A. J. Ochsner, Chicago, states, "I have had a number of cases of appendicitis in infants less than two years of age. In all of these cases, however, the diagnosis was not made until after the operation and in each case the diagnosis was intussusception or intestinal obstruction or gastritis."

Dr. J. B. Murphy, Chicago, "I have had but a very limited experience with the disease in infants—not sufficient to justify me in an opinion based on experience. However, I would say that I would operate on these just the same, when they presented."

Dr. M. L. Harris, Chicago, "I have looked over my records for the past ten years, including several hundred cases, and have not found a single case operated upon under two years of age, thus they have not been very common from my experience. During several years service at the Children's Hospital, we had a few cases there; whether there were any of them under two years of age I cannot remember."

From the Mayos' Clinic. "We have had a number of cases under two years of age. The most interesting feature, from the standpoint of diagnosis in children, has been the frequency with which pneumonia and other acute infections begin with abdominal symptoms, very similar to those of appendicitis, the abdominal symptoms persisting for a day, when they entirely disappear and the case goes on to well developed pneumonia or measles or something of that nature."

Dr. H. C. Deaver, in his report of 500 cases of appendicitis in children, states that the youngest case was 21 months of age.

Dr. Carl E. Black reports the following: "The case had a typical history of an acute appendicitis. The child was taken sick with an evidence of abdominal pain and vomiting, had obstinate constipation amounting almost to obstruction. These symptoms were followed in about three or four days by sepsis with extensive peritonitis and an area of dullness on the right side. He saw the patient about the third day, made the diagnosis and advised operation. Unfortunately upon that day the child seemed a little better and the family would not consent to an operation. The case went on for ten days longer, when the area of dullness was increased to a plainly visible abdominal tumor. He was again sent for to operate.

He opened a large foul smelling abdominal abscess. A fecal concretion was found in the abscess cavity, the appendix was not discovered in an accessible condition and the child's condition barred doing more than was absolutely necessary. This child was sixteen months old.

Dr. J. P. C. Griffiths of Philadelphia, several years ago collected a series of fifteen cases of appendicitis in infants under two years. Four had hernia, seven cases with perforated appendix, three found at autopsy and four found at operation. Nine cases of fourteen were operated on. In five cases the disease was discovered first at autopsy. Of fourteen cases six recovered. The report of the fifteenth case was incomplete. Of this series five were under three months of age, two under seven months and seven over twelve months.

Hutinel collected 40 cases of appendicitis in children under two years of age; majority developed between three weeks and seven months, lesser number from 18 to 24 months, very exceptional between 7 and 11 months.

Dr. S. W. Price, reports a case of appendectomy in a three days' old infant whose appendix was two and one-half inches long and about the diameter of a large quill and was wound around the ileum. The child made a recovery.

Savage (*Medical Record*) reports a case of a two months old boy where he found the appendix inflamed and perforated in an inguinal hernia in which the perforation was probably the result of trying to reduce the hernia by taxis.

Jackson (*American Journal of Surgery*) reports an infant who died forty hours after birth from bichloride poisoning. Autopsy showed appendix adherent to colon due to prenatal infection.

Glazebrook (*New York Medical Journal*) reports a case of a child 14 months old who was taken with sudden pain while playing and died a few hours later. Autopsy: the omentum was found adherent to the appendix; about one dram of green pus escaped through perforation; the appendix was found to contain a black headed pin, the head under the top of the appendix and the point at the perforation. In 1,000 autopsies he found only two foreign bodies. Death due to other conditions.

Out of 1,500 cases seen by McCosh, the per cent which had the most symptoms in the first two years was 1.33. The youngest cases in his series were 12, 12½ and 16 months, respectively.

Marvel. Operated on premature child 8 months, when it was 24 days old. Removed gangrenous appendix. Child lived.

Canaguier reports case where child was born asphyxiated, for which midwife beat it with wet towel. Five days later it was brought to the hospital with a history of no bowel movement except meconium. Nursed. Occasional regurgitation. Examination found abdomen distended, contractile mass in right iliac region, diagnosed as intestinal occlusion. Upon operation found acute peritonitis from the appendix,

which was long, twisted, necrosed and held in place by old adhesions. Surface covered with numerous vascular branches, no perforations or gray spots. Child died as result of hernia of the bowels caused by general peritonitis due to fact that stitches cut through because of excessive crying of baby.

Remsen reports appendicitis in infant 16 days old, with appendix in inguinal hernia sac. Admitted to Johns Hopkins Hospital with persistent vomiting, with red colored stools. Patient born in hospital after normal labor. Nursed every 2 to 3 hours. Stools normal at first. When 12 days old began to vomit every 2 to 3 minutes for 2 days. Then less marked but stools became lumpy and red. Cried nearly all the time. A lump noticed in right inguinal region, very tender on palpation. Expression showed pain at all times. Swelling extended from right external abdominal ring to lower end of scrotum and surrounded the testicle and cord. A definite constriction ⅓ distance from ring. Lower part semifluctuant and tender. Above seemed to be full of fluid under tension. Incision over Poupart's ligament. Found appendix in upper sac, inflamed, indurated and red, with fibrin spots giving a dull rough surface. No perforation. Appendix was quite long (about 8 cm.), adhered to hernial pouch by fibrin. No bowel in sac. Cecum was drawn down. Removed appendix.

Cumston reports male 12 weeks old. Breast fed, healthy infant. Five days before seen had severe diarrhea, stools offensive and much mucus. Some intestinal distention. Vomited, pulse up to 140 and over; temperature subnormal. Examination showed distended abdomen, dullness over right iliac fossa, rest of abdomen tympanitic. Mass in cecal region. Operation. Little foul fluid, cecum greatly distended, adherent to iliac fossa. Appendix delivered, bent on itself at middle, size of pencil, infected, removed, recovery.

Male, 21 months old, bottle fed, health good. Somewhat constipated for 3 months. Vomited now and then for past three days, restless, constipated, severe colic and abdomen distended. Examination showed well developed baby. Abdomen distended and tympanitic, no dullness. Bilious vomiting continuous, no stools 24 hours. Operation. Thin serum and flakes of fibrin were plentiful; distended intestine, high grade general peritonitis; appendix gangrenous, no adhesions. Appendix removed. Lived 8 hours.

Becker, Johannes. Appendicitis in an inguinal hernia on the left side in an infant.

Infant 2 months old. Mother had noticed swelling in the left inguinal region. The day before the child was sent to the hospital it appeared again with inflammatory reddening of the soft parts over it. Attempts at reposition failed. Both testicles in the scrotum. Abdomen tense and very sensitive on pressure. Temperature 38.8 C. Diagnosis of incarcerated hernia, communicating hydrocele or phlegmon made. Hernia incision made. A partly gangrenous loop of intestine appeared at the upper angle of the wound. It proved to be the appendix. Removed.



Recovery. Becker suspected a case of situs inversus, but x-ray showed heart and liver in normal position. He believes case was due to an abnormally movable cecum, that the appendix was misplaced into the inguinal canal and afterwards became inflamed. He has not been able to find any similar case in the literature.

#### ANATOMY.

A brief study of the anatomical development and structure of the appendix in early infant life offers explanation for the infrequent occurrence of an inflammation of the appendix during the early period of life. Fowler states that the origin and position of the appendix are natural results of development changes involving, in intra-uterine life, the forward and downward enlargement of the cecum. A diverticulum of the same width as the colon is at first formed, the lower part of the latter remaining as the comparatively narrow appendix. This at first presents a funnel-shaped communication with the large intestines. The broad base, however, gradually narrows before birth, although the appendix enlarges after birth. It increases in length and width actually, but becomes smaller relatively as the individual grows older. In other words, the appendix of an infant is larger, proportionately to the cecum, than that of an adult.

Blake further states regarding the development, location and blood supply: "It is well known that the cecum in late intra-uterine life descends from a position immediately below the liver to its normal one in the right iliac fossa. The descent is due rather to an increase in length of the descending colon than to a dropping of the colon.

A folding of the gut results at the junction of the cecum and the appendix from an inadequate growth of the vessels in the mesenterium. As these vessels normally pass behind the ileo-colic junction, the appendix is held up behind that point, and through it the end of the cecum. In many instances a sharp kink of the appendix occurs at the point where its main vessel reaches it. In some of the cases it appeared as if a constriction of the ileum might readily occur by an overdistended cecum and ascending colon drawing down over the band produced by the meso-appendix. With such a mechanical relation of these structures it would seem that the symptoms complained of by the patient could be caused in the following ways—namely, by the tugging on the appendix and meso-appendix produced by an

overdistended or an overloaded cecum; by a partial obstruction produced either in the ileum or the colon by their bending over the fixed appendix, or possibly by the interference with the circulation of the cecum and ascending colon.

Regarding the lymphoid tissue Fowler states:

The appendix is especially rich in lymphoid tissue, greatly resembling the tonsils in this aspect. The proportions of the lymphoid tissue may also vary greatly in different individuals and in different parts of the same appendix. In some instances it is almost entirely absent, it is as a rule most abundant in children, although it is not by any means absent in the aged. Frequently the lymphoid tissue projects beyond the level of the mucous membrane and encroaches upon the lumen of the organ. The mucous membrane itself is often built up by closely applied lymphoid cells, which are evidently undergoing the process of proliferation. There is a decided preponderance of the longitudinal fibres in the muscularis, the circular fibres being correspondingly lessened; in some instances the latter are absent.

The younger the child the larger and shorter in connection with the intestines is the insertion of the appendix (percentage of the length of the process to that of the larger intestines in the new born, 1:10; in the adults 1:20; Ribberts). Scybalous masses, cases of infection as well as secretion, can for this reason more easily enter and make their exit from the appendix.

#### ETIOLOGY.

The etiology of appendicitis in infants is not different in many respects from that in the adult. The anatomical structure furnishes a partial immunity and at least accounts in part for the infrequency of the disease in the early months of life. Constipation is usually a preceding condition. Acute inflammations of the gastro-intestinal tract are frequently associated in some degree with inflammation in the appendix, particularly those infections which are most marked in the large bowel, because the appendix has a large amount of lymphoid tissue subject to irritation of bacteria and toxins. Close resemblance in the histologic structure of the appendix is also seen in the susceptibility of the appendix to the same kind of inflammation which affects the tonsils. Sahli, Sonnenberg, have observed the same conditions in infectious diseases, especially in large epidemic outbreaks. The presence of a foreign body in the intestines is usually of little etiologic significance and indicates only a secondary factor in the perforation. Renvers and Schiller have recently given considerable etiologic importance to the presence of worms and their eggs

in the intestines. Numerous writers have discussed this subject and opinions differ markedly as to the relation of worms to the etiology of the appendix. After careful study of case reports one must conclude that in some cases worms unquestionably act as the predisposing factor if not the active agent. Wahle cites two cases in his own family to illustrate the epidemiology.

Trauma is a factor, particularly where the appendix is already diseased.—Fairbank. Boy kicked in the back, hurt abdomen falling, appendicitis and abscess.

#### PATHOLOGY.

Appendicitis in infancy presents certain pathologic features which distinguish it from the same disease in older children and adults. In infancy, as stated above, we find anatomical conditions which tend to protect the infant against attacks of this disease. The comparatively wide opening of the appendix into the cecum admits of free drainage. If, however, inflammation takes place and the contents of the appendix cannot drain, we find there is a marked tendency to general peritonitis and a gangrenous appendix. The first of these is probably explained on an anatomical basis, in that the appendiceal mucosa is very thin, the omentum is relatively shorter and does not come down to help form a limiting wall for appendix. Gangrene occurs because in the swelling of the appendix the artery which supplies the mesenterium is frequently kinked so that the blood supply is shut off. This is explained by the anatomical location of the appendix, viz., that it is higher and drawn up back of the colon. The lymphoid tissue is rather abundant in the appendix and is prone to inflammation, especially when irritated by bacteria and their toxins.

A diarrhea in an infant means an infection in the colon and this inflammation may extend by continuity of tissue to the appendix. Infection may reach the appendix in the infant the same as in older children and adults, through the blood stream.

Cumston states that as the appendix is really a large Peyer's patch, it must often be inflamed owing to changes in the diet.

1. Appendicitis simplex (more common in infants).

2. Appendicitis perforative (infrequent in infants if due to concretion).

3. Appendicitis gangrenous (most frequent in infants), due to inflammation involving the artery of the appendix.

In 50 per cent of cases in young children, peritonitis developed—Schule, Rotter, Leander, Sonnenberg.

"Toxic form of appendicitis is frequent cause of death in infants; many deaths from enteritis are due to undiscovered appendicitis with bacterial toxemia, with little or no evidence of abdominal trouble. In operating on older children we often find constrictions from old ulceration causing a bending of the organ. Also old thick adhesions point to former trouble. He takes for granted that the appendix is the seat of inflammation in infants and young children who have constant intestinal upsets. Cyclical vomiting an important symptom."

#### SYMPTOMS.

The symptoms of appendicitis in infants are similar to the symptoms of the same condition in older children and adults, but there are some points of distinct difference.

First, the disease as a rule has a more insidious onset. Second, it has a tendency to develop rapidly into a general peritonitis. Third, the subjective symptoms are of very little value. Fourth, the objective findings are exceedingly difficult to elicit.

There are three very important symptoms.

*First* in importance is *abdominal pain*. Usually beginning suddenly, causing the babe to cry violently, giving evidence of extreme distress without any definite location in abdomen. Frequently the severity of the pain is too pronounced for the child to give the least information about this subjective symptom. The pain may be very mild in character, in some very unusual cases it seems almost absent. If the child is able to locate the pain it usually refers to the epigastric region and may refer to the region of the bladder.

*Second, tenderness*, usually present but difficult to localize since the babe is disturbed, crying, and it must be remembered that the abdomen in infants is almost invariably hyperesthetic. However, by careful examination with *very gentle palpation* it will be found that this hyperesthesia is not limited to the area which has the greatest amount of tenderness. The hyperesthesia may extend over the entire surface of the child's



abdomen and indeed to the skin over the chest. The tenderness is usually localized in the lower right quadrant of the abdomen. It is not so frequently found over McBurney's point.

*Third, muscular rigidity*, especially of the right rectus muscle, is one of the most important signs and may practically always be found by careful, painstaking patience on the part of the examiner. It is well to begin palpation of the abdomen in the infant by handling of the child in other parts that are known to be free from pain. For example, the child is stripped and ready for examination; instead of placing the hand immediately upon the abdomen it is well to place it upon the thigh or leg which you are quite certain is free from pain. In this manner the confidence of the babe is gained and the further examination over the painful area may be made with a greater degree of accuracy and more certain findings obtained.

Vomiting is another important symptom of appendicitis, but has no significance as a diagnostic factor except when associated with the other symptoms mentioned above. It is usually persistent and frequently continues even under starvation and emptying of the bowels. It is important when the vomiting occurs and does not contain any undigested food or is not associated with undigested food in the stools. Cumston (*American Journal of Obstetrics*, February, 1909) believes that there is a relation between cyclic vomiting in children and chronic appendicitis. It is possible that this may be true in some cases of frequent vomiting in infants. The vomiting is much more severe and persistent in those cases which develop early into a general peritonitis or a paralytic ileus. The recurrence of vomiting after it has discontinued for some hours without any apparent cause should make us suspect that the disease has spread from appendicitis to a general peritonitis.

Abdominal distention is found in many cases of appendicitis, and has importance as a symptom of appendicitis because of the frequency of the abdominal distention in enteritis and intestinal indigestion and fermentation, as noted in the case reported above. The more severe the appendicitis and the greater the amount of peritoneum involved the more marked is the abdominal distention.

*General symptoms.* Fever is present in vary-

ing degrees, depending upon the severity of the infection, the amount of absorption and the amount of peritoneum involved. The pulse is usually rapid and prostration is present in varying degrees. The facial expression is important as giving evidence of distress, and the drawn, sunken, anxious appearance shows that the disease has assumed a grave aspect. The blood examination shows as a rule an increased number of leucocytes, from ten to twenty thousand. The differential count is important to show the increase in the polymorphonuclears. The importance of this finding is measured only when associated with other marked symptoms.

Walter Schultze. (Value of Blood Count in Appendicitis, especially when complicated by Progressive Peritonitis), describes Arneth's method of blood counting. Arneth found that under normal conditions there was a definite relation between the neutrophilic leucocytes with 1, 2, 3, 4 and 5 nuclei, and that in most infectious diseases there was an increase in the ones with the lower number of nuclei at the expense of those with higher numbers. This is explained by the fact that the many nuclei cells are older forms and when the body is in danger increasing numbers of young cells are called out. There is thus a "displacement to the left" in the relative numbers with increasing infection. Schultze confirms these findings but says the count can be simplified by only counting the relative increase in the cells with one nucleus. He counts the myelocytes, meta myelocytes and other immature forms with the one-nucleus cells. Under normal conditions he finds on an average 6 per cent of neutrophile cells with one nucleus as against 94 polymorphonuclear forms. With increasing virulence of the infection this percentage increases. This count of course, must be considered in conjunction with the quantitative leucocytosis and the clinical symptoms. It is a valuable aid, both in diagnosis and prognosis.

It has not yet been shown whether these blood findings hold true with cases of appendicitis in infancy.

Another symptom not infrequently present is that which suggests a vesical calculus. This may be the most prominent symptom and so marked that a diagnosis of vesical calculus has been made.

The following case reported by Churchman illustrates this: "The first diagnosis was vesical calculus. Not only were urinary symptoms the only symptoms, but abdominal examination was negative, the Röntgen picture suggestive and the temperature normal. The probable sequence in this case was as follows: An acute appendicitis with obscure onset but characterized pathologically

by the slight pelvic peritonitis causing bladder symptoms; subsidence of the attack; second attack with rupture—probably near cecum; formation of abscess, which did not extend into the pelvis (hence absence of bladder symptoms on third admission). Inasmuch, then, as an appendicitis of the severest type may be present in children without one of the classical symptoms and even a general peritonitis may develop under careful observation, it is perhaps not unwise to call attention again to the occurrence of infantile appendicitis, that those who see many infants may be constantly on their guard. At present, on account of the difficulty of the diagnosis and fulminant character of the disease, only the severest cases come to surgery. It could do much more if the diagnosis were made early. All urinary symptoms in children should suggest the possibility of appendicitis, and in infants with apparent hip-joint disease, particularly if the thigh be flexed, the same possibility should be kept in mind. Cathartics should never be given for constipation unless it is certain that appendicitis is absent; all cases with abdominal pain should be regarded as appendicitis until proven otherwise and cathartics avoided (Karewski). Palpable resistance on the right side by *rectal examination* is one of the most frequent. Selter goes so far as to call it absolutely constant. The importance, therefore, of *rectal examination* in any case is obvious."

#### DIAGNOSIS.

The diagnosis of appendicitis in infants must be made from the above symptoms. It is necessary for the physician to be in possession of the facts of his case and thoroughly understand these facts and findings to definitely determine whether his patient is suffering from appendicitis or some other disease of the abdomen.

Marvel says that to recognize morbid appendicitis one needs to accept not only its possibility but probability. Consider all cases of abdominal distress to be appendicitis until proven otherwise. Chronic appendicitis is less often suspected but claims more victims. Too often called colic, enteritis, colitis, nervousness, indigestion. Irregular bellyache and appetite, periodic abdominal distention, bad nutrition, delicate child with constipation, mucous stools signalize its probability. With any or many of these and tenderness over the abdomen its involvement can be

reasonably assured. This kind can persist without claiming life, but it endangers and handicaps its victim. Appendicitis in the babe is most likely to be confused with other diseases of the gastro-intestinal tract. First, acute intestinal indigestion, the very common occurrence of this condition and the relatively infrequency of appendicitis in infants make it exceedingly important that the physician should thoroughly familiarize himself with the symptoms of acute intestinal indigestion and never neglect to carefully examine all cases of abdominal distention no matter how slight the symptoms may be. In intestinal indigestion vomiting is usually present, the babe cries, may or may not have abdominal pain, usually there is an absence of abdominal tenderness, and local muscular rigidity. Distention of the abdomen is not uncommon in intestinal indigestion. The stomach and intestines contain much undigested matter as evidenced in the vomitus and the stools, the child is usually easily pacified and may not refuse its food, and is quiet and drowsy rather than restless, as is frequent when a great deal of abdominal pain is present. Diarrhea is usually present in intestinal indigestion and constipation is more common in appendicitis. In intestinal indigestion the fever is higher than in appendicitis. As a rule the blood examination shows increased leucocytes in appendicitis and little or no change in intestinal indigestion.

*Acute Gastro-Enteritis.*—The differential diagnosis is made from this disease usually within the first 24 to 48 hours and is made chiefly by the disappearance of the acute abdominal pain as soon as the bowels have been cleansed. In acute appendicitis the pain still persists or is increased, abdominal tenderness becomes more marked, muscular rigidity becomes more localized, vomiting persists. There is a tendency to be quiet and less noisy than when abdominal pain is very acute.

*Acute Intestinal Obstruction.*—Of the acute intestinal obstructions in infants, the class which comes most often into consideration in the differential diagnosis of appendicitis is intussusception. This disease is most common in infants; it has a more sudden onset than appendicitis; child gives evidence of early prostration, intestinal distress and anxiety; temperature is usually normal. The pulse is rapid out of proportion to the tem-



perature. The whole general aspect of the case indicates an immediately severe condition. Vomiting appears early, severe, persistent; at first food, later mucus, bile, feces. Bowels may move fecal matter but very quickly the stools are composed of mucus and blood accompanied by a great deal of tenesmus.

Alapy of Buda-Pesth states that acute intestinal obstruction is more readily recognized in children than in adults. There are two great causes of acute ileus during childhood, appendicitis and intussusception. The author has seen obstruction dependent upon appendicitis appear in very varied symptom-complexes, but there is, on the other hand, only one clinical type, intussusception, no matter where the lesion is situated. It is of no practical value to attempt to discover what portion of the bowel is invaginated; one should determine rather in what part of the abdomen the invagination is situated. Alapy considers the presence or the absence of rigidity of great diagnostic moment. The former speaks in favor of intestinal obstruction due to appendicitis, the latter of obstruction due to invagination.

The presence of acute colic in infants may sometimes cause confusion in the diagnosis of appendicitis, but is usually easily differentiated by the lack of fever, vomiting, relief from pain after eructation of gas or expulsion of flatus.

Other diseases than those of the gastro-intestinal tract may at times confuse us in the diagnosis, as, for example: psoas abscess, tubercular disease of the spine, tubercular disease of the hip-joint, renal colic, biliary colic. The latter two seldom come into consideration with the diagnosis during the first two years of life.

Many mistake the initial pain of an acute pneumonia for the pain of an acute appendicitis. It has been observed that an acute pneumonia may begin with a very acute pain referred to the abdomen and is probably due to the presence of a diaphragmatic pleurisy. The distinction can readily be made by careful observation of the patient during the first 24 to 36 hours. The possibility of pneumonia beginning with an acute abdominal pain should put us always on our guard to make a careful examination of the chest in all cases of acute illness of the babe with symptoms pointing toward the abdomen.

#### DIAGNOSTIC CONCLUSIONS.

1. Study the character and significance of the cry in a babe suffering with pain.
2. Appendicitis does occur in infants, and probably more frequently than we have recognized.
3. Every acute abdominal pain in the infant should arouse suspicion.
4. The tendency in infantile appendicitis to a rapidly developing septic peritonitis which has a very high mortality.
5. Diagnose acute digestive disturbances in infants by the process of elimination. This is urged because of the tendency of many physicians to diagnose acute digestive disturbances first.
6. The unimportance of subjective symptoms and the all-importance of objective symptoms.
7. The necessity for a careful, patient, thorough examination of the nude child.
8. The necessity to gain the confidence of the crying, restless babe in order to accomplish a satisfactory examination.
9. Early diagnosis means a lowered mortality.

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## BOVINE TUBERCULOSIS.\*

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MADISON, WISCONSIN.

I do not need to say that it gives me a great deal of pleasure to be here with the Robert Koch Society and to speak to you on this occasion.

Dr. Sachs asked me to speak on this subject—Bovine Tuberculosis—which has been a special study of mine for a number of years.

I remember very well that Dr. Welch of Johns Hopkins asked me in 1912, "Do you not think that the time has come when we can stop discussing this question of the relation between bovine and human tuberculosis, at least to the extent of not making it a prominent subject in our meetings?" I told him that I felt to a certain extent this could be done, and yet, the question crops up year after year; not a legislature meets in any state of the Union that the question does not come up in one form or another. We are constantly confronted with the "cow question" as Dr. Favill has called it, and I could spend very much more time than you would care to listen, in talking on bovine tuberculosis as an economic scourge, as a farmer's question, a "cow question," and the cost to us, to the United States, and to the world in general, and also, I believe, a factor in the high price of living at the present time. However, those present are interested in it chiefly on account of its relation to public health, and on that phase of the question I am going to spend all my time today.

The history of this controversy dates back to 1901, at the British Congress of Tuberculosis. Before that time we were practically a unit in believing that tuberculosis was the same in whatever animal seen, and in whatever form in any animal. This was the belief of Villemin, who in 1865 first showed that tuberculosis was a communicable disease. Koch said that Villemin did thorough and methodical inoculation experiments, using material from men and cattle, and "proved experimentally the identity of the latter disease with human tuberculosis." As a result of his own experiments, Koch says "The perfect identity and unity of the tuberculosis process in different kinds of animals cannot be doubted."

Koch also stated in his first paper: "It seemed to me, however, not improbable that though bacilli from various forms of tuberculosis, *perlsucht*, *lupus*, *phthisis*, etc., presented no differences microscopically, yet that in cultures, differences might become apparent between bacilli from different sources. But, although I devoted the greatest attention to this point, I could find nothing of the kind. I was not able to demonstrate any differences in the effect of inoculation with material derived from varieties of the tuberculous process, as miliary tuberculosis, *phthisis*, *scrofula*, fungous inflammation of joints, *lupus*, *perlsucht* and other forms of animal tuberculosis."

The whole world believed, until 1901, that the different forms of tuberculosis were the same, except that in 1896 Dr. Theobald Smith pointed out certain differences between cultures of human bacilli and bovine bacilli. This work was extended and enlarged upon in 1898.

The chief differences which Dr. Smith observed were as follows: 1. The human bacillus is very much easier to grow on artificial culture media than the bovine. 2. The human bacillus is long, slender and stains unevenly, whereas the bovine bacillus is short, thicker, and stains evenly, not showing vacuoles. 3. Most important of all, the bovine bacillus for all experimental animals shows a virulence very much greater than that of the human.

The general belief until 1901 was that bovine and human tuberculosis were the same, and that the bovine disease could be transmitted to human beings. At the British Congress on Tuberculosis Koch made the following statements:

1. Human tuberculosis differs from bovine and cannot be transmitted to cattle.

2. Though the important question whether man is susceptible to bovine tuberculosis at all is not yet absolutely decided, and will not admit of absolute decision today or tomorrow, one is, nevertheless, already at liberty to say if such a susceptibility really exists the infection of human beings is but a very rare occurrence. I should estimate the extent of infection by the milk and flesh of tuberculous cattle, and the butter made of this milk is hardly greater than that of hereditary transmission, and, therefore, do not deem it advisable to take any measures against it.

In regard to the first of these statements it has been repeatedly shown that cattle can be infected with human bacilli. In regard to the second statement, and the comparison to hereditary

\*Read before the Robert Koch Society for the Study of Tuberculosis at the Chicago City Club, April 9, 1914.



transmission, it may be stated that tuberculosis is not an hereditary disease. The literature of all the world shows only about twenty-five cases of true hereditary tuberculosis; even in animals it is rare. The possibility of hereditary tuberculosis is recognized as an academic fact, but practically it plays no part in the spread of the disease. Koch's statement was equivalent to saying that there was no danger from bovine tuberculosis.

Koch's opinions raised a storm of opposition. He was the greatest authority in the world on tuberculosis, and such an opinion, if true, would have upset not only all of our ideas, but the laws which almost all civilized nations had enacted to protect human beings against the bovine disease. The English Government soon appointed a Royal commission, and the German Government an Imperial commission. The latter was presided over by twenty-five of the leading professors of the German empire, including Koch himself.

The English commission examined 108 cases of which 84 showed human infection, 19 bovine, and 5 both human and bovine. In other words, 22 per cent. of all their cases showed bovine infection. If we analyze these cases as to the location of the disease we find that there were 38 cases of cervical gland and abdominal tuberculosis. Of these 17 were bovine, 19 human, and 2 both human and bovine. Taking those showing abdominal tuberculosis alone, there were 29 cases, 14 of which were bovine, 13 human, and 2 both human and bovine.

The German commission reported that of 84 children examined by them, 21, or 25 per cent., had derived their infection from bovine sources. Against this laboratory work the German commission reports a collective investigation done, I believe, mostly by correspondence. Six hundred and twenty-eight persons who are said to have been in the habit of drinking milk from tuberculosis cows were examined. One group containing 360 persons, among whom were 151 children, drank the milk uncooked. Clinical examinations showed only 2 cases of tuberculous adenitis and 14 cases of suspected tuberculosis. The second group consisted of people who drank the milk from tuberculous cows after heating. Among these there were 13 cases of suspected tuberculosis. I have never been able to place much confidence in clinical examinations of this

sort, and do not consider that this investigation has much value. In the first place it is entirely probable that many cases of infection escaped clinical observation. We know that many people are affected with tuberculosis and recover without showing clinical symptoms. In the second place, it is impossible from clinical observation to tell the difference between human and bovine tuberculosis. The British Royal commission has shown that it is impossible to tell the difference between the two even by microscopical examination of the tissues involved—that the process is essentially the same whatever the origin of the infecting organism. We have had a most striking object lesson in the United States showing the danger of depending on clinical observation. In the city of New York the leading pediatricians for many years followed Koch, claiming that there was no danger to children from drinking the milk of tuberculous cows. The work of Doctors Park and Krumweide has shown how fallacious this idea was.

Taking the city of New York in general, these authors examined 88 cases, of which 77 were human and 11 bovine, showing 12½ per cent. of bovine infection. At the Babies' Hospital where 63 cases were examined, 59 were human and 4 bovine, a percentage of 6¼ bovine. At the Foundling Hospital 9 cases were examined of which 4 were human and 5 bovine, or 55 per cent. bovine. In the Foundling Hospital cows' milk was used exclusively, and these figures in my opinion represent the real danger from unprotected cows' milk. These examinations were made on children who had died of the disease. It is well known that tuberculosis often causes affections of bones, joints, and glands, which are not fatal, but which lead to more or less permanent deformity and injury. If these cases are taken into consideration the percentage of bovine tuberculosis is very much higher, probably about 30 per cent. of those suffering from the disease.

A study of age periods is also very instructive. Of 9 adults examined by Dr. Park, all showed the human infection. Of 27 children from 5 to 16 years of age, 19 showed human infection and 8 bovine. Of 18 children from birth to 5 years of age only 6 showed human and 12 showed bovine infection. Just why this increased susceptibility to bovine infection is seen in children, and especially children of the younger age, I am

unable to explain. It is interesting, however, to observe that it corresponds with the age at which cows' milk forms a considerable portion of the diet.

All workers along these lines have found figures corresponding to these, and we are able to say that children during the first five years of life are more susceptible than when older, and after the age of 16 our figures show even a smaller proportion of bovine infection. The figures collected by Dr. Park from laboratories in many countries show the relation of bovine to human infection:

Adults—787 cases examined: 777 human, 10 bovine.

Children, 5-16 years—153 cases examined: 117 human, 36 bovine.

Children 0-5 years—280 cases examined: 215 human, 65 bovine.

During the last few years very interesting work has come to us from Edinburgh. The first report is published by Mr. Fraser. This work has an interesting and pathetic history. Mr. Stiles, the well known surgeon of Edinburgh, was called to see a child suffering from surgical tuberculosis. The case was too far gone for interference, and soon went to death. Mr. Stiles gave as his opinion that the child had been infected by milk. This was considered impossible by the parents as they had their own cows, which were said to have been tested with tuberculin. Mr. Stiles persisted in his opinion, telling the parents that if the cows had not reacted it was probably because the disease was too far advanced. On slaughter both cows were found to be in a condition of advanced tuberculosis, and one had tuberculosis of the udder. The bereaved father then gave money and asked that a study be made of this question. Mr. Fraser examined 67 children 12 years of age and under, suffering from various forms of surgical tuberculosis. Forty-one of these showed the bovine tubercle bacillus, 23 the human bacillus, and 3 both human and bovine. Analyzing these cases by age periods we find that in children under five years of age there were 47 cases, 32 of which showed bovine infection, 12 human and 3 both human and bovine.

More recently Dr. Mitchell of Edinburgh has carried out an investigation on cervical gland tuberculosis. Seventy-two consecutive cases were

examined by him. Sixty-five, or 90 per cent., showed bovine infection, and only 7, or 10 per cent., showed human infection. Among these there were 38 cases in children under five years of age, and of these 35 showed bovine infection and only 3 human.

In America, Dr. Lewis has examined 15 cases of cervical gland tuberculosis, his patients ranging as high as 32 years of age. Among these 9 showed bovine infection and 6 human. Those showing bovine infection had an average age of  $8\frac{1}{2}$  years, while those showing human infection averaged  $17\frac{2}{3}$  years. Again we note this striking fact that the younger the child is the greater apparently is the danger from bovine infection.

I know of but one piece of work which does not accord with these general facts—that of Gaffky of Berlin. He examined 78 children, the ages not given exactly, and among these found only 3 cases of bovine infection. These figures do not agree with those given by the German Imperial commission, or by other reports from Germany. The German Imperial Board of Health examined 3 cases of primary cervical tuberculosis, and found that two of them were bovine and one human. Weber examined 5 cases  $1\frac{1}{2}$  to 8 years of age, and all of them showed bovine infection.

I will not weary you with further figures, and simply repeat the statement that bovine infection seems much more common in younger children than in older ones, and more common in older children than in adults.

I know of no explanation for the apparent immunity of adults to infection by the bovine germ. We have abundant evidence that when this germ is inoculated into wounds, as not infrequently happens to veterinarians and butchers, it produces exactly the same changes as the human germ. It is well known that such inoculations, whether human or bovine, usually remain local and do not produce generalized tuberculosis; yet, we have instances of such infections with the bovine germ extending up the arm and producing generalized tuberculosis with death. I know of no good reason why infection through the digestive tract should not also take place in adults as well as in children, yet the fact remains that laboratory work does not often demonstrate the presence of the bovine germ in adults.

The question then arises, can prolonged resi-



dence in the human body change the morphology and characteristics of the bovine germ so as to make its origin unrecognizable? I do not hesitate to express my belief that this can and does take place. I acknowledge freely that of all germs the tubercle bacillus seems to retain its characteristics as well as its virulence more strongly than any other, yet we have experimental proof that such a change does take place. Dr. Leonard Pearson and myself by passage through five calves changed a typical human germ into a bovine germ, typical in every respect. I know that there is a possibility of error in this experiment, but every precaution was taken against error. The calves were tested with tuberculin, kept in a new stable with cement floor and walls, and isolated from every known source of infection. Tuberculosis is such a slow disease that there is always a possibility of some error creeping in, in spite of precautions.

Our results have been confirmed, however. Eber of Leipzig has reported experiments similar to ours with the same results. The English Royal commission in studying the tubercle bacillus isolated from cases of lupus which did not correspond either to the human or to the bovine, in two cases changed the character of the bacillus by passage through rabbits and calves until it became a typical bovine. Further than this, we know that the avian tubercle bacillus is derived from the mammalian type, and that the tuberculosis of fish and of the blind worm of Möller have a similar origin from the mammalian bacillus. Both of these types of the tubercle bacillus differ very much more markedly from the mammalian type than the bovine and human differ from each other. The tubercle bacillus demands a constant temperature at or about that of the body, yet by residence in fish and in the blind worm it can be so changed that it will no longer grow at body temperature, but must grow at ordinary room temperature.

In view of these facts, which are acknowledged by everyone, it does not seem to be going very far out of the way to hold that the tubercle bacillus can be made to change its characteristics, its morphology as well as its virulence, by prolonged residence in a given soil. If it does not so change, it is an exception to all known germs. If such change takes place, it then follows that the type of bacillus which is often times isolated

from the human being and which presents only the characteristics of the human germ may in reality be the bovine germ which has changed its type so that its origin is no longer recognizable by our usual methods of experimentation.

The great question now may be asked, What proportion of the cases of tuberculosis occurring in human beings which we see in our actual life and in our practice is due to bovine infection? In other words, what is the relative importance of infection from bovine sources to infection from human beings? I do not believe that we have facts enough before us to make a positive statement concerning this matter. We certainly must acknowledge at the present time that infection from our fellow man is the most common source of infection in human beings, especially in adult life. For children the most sceptical must acknowledge that bovine infection is quite frequent. In New York City the work of Doctors Park and Krumweide has demonstrated that at least 300 children die in that city every year from bovine infection, and Dr. Park very justly says that there is no reason for believing that New York occupies any better position in this regard than other large cities of our country. The most recent estimate I have seen is that of Dr. Lawrason Brown of Saranac Lake. He considers it certain that 8 per cent. of all cases of tuberculosis that we see are of bovine origin. Accepting this, it means that at least 16,000 people die in the United States every year from bovine infection. This mortality is certainly great enough to make us earnest in our efforts to guard the people against the bovine disease. Apart from the death rate, a very much larger number of persons suffer from deformities due to tuberculosis, such as humpback, hip joint disease, etc. The exact number of these cannot be accurately estimated.

If what I have told you is correct—and I feel that I have given you proofs of everything claimed—the lesson to be learned is a clear one. We must stand for clean milk—milk that comes from cows *known to be healthy*—milk which is drawn and handled in a cleanly manner. We must support our health officers in their work for clean milk, and educate the public in general to support such demands. The burden of the proof must be put on the producer. It will not suffice to take milk which we do not know to be

diseased. We must demand that milk be served to our communities which comes from cows *known to be healthy*. The value of clean milk to children particularly is well known to all. Its influence in the prevention of tuberculosis will be equally great.

#### DISCUSSION.

Dr. Henry B. Favill: We have been in the habit, of late years, in practically believing and assuming that most of the adult tuberculosis was acquired in childhood. I think that this is, to a considerable extent, the belief.

Is there any way of accounting for the fact that adults show so little bovine tuberculosis except by assuming the morphological changes in the bovine tubercle bacilli? I want to know just what you think of it. How can you account for so little bovine tuberculosis in adults unless you assume that it has changed?

Dr. M. P. Ravenel: Dr. Favill has brought out exactly the point which is of most interest. You will remember the very splendid paper of Dr. Baldwin a short time ago. He stated that tuberculosis is acquired during childhood and that in adult life we get reinfection largely. Personally I do not know of any way to account for this fact that Dr. Favill has brought up except by assuming this change of tubercle bacilli.

I do not agree with Dr. Baldwin, in saying that adults are ever free from the danger of infection; we cannot believe anything like that. There is no warrant for any adult in exposing himself or herself carelessly to tuberculous infection.

and one-half inches to two inches or longer. (Since the application of the first dento-maxillary splint, I have had the silver plates made up in strips, which allows me to cut them to the individual demands of a case.) Each plate is perforated the entire length with one-thirty-second inch holes. The holes are drilled one-eighth inch apart. Only one plate is tapped with a thread. With each set of plates are four silver screws. In most cases but two screws are necessary, although four insures a greater degree of stability in selected cases. The anterior plate is not threaded (as noted above) but the holes are fractionally larger to permit screws passing through to posterior plate.

The only accessories necessary for the application and adjustment of the splint are a small sewing-machine screw driver (all metal for ster-

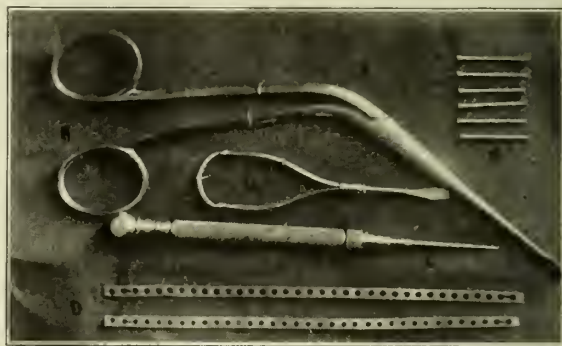


Fig. 1. A—Nasal Forceps, for holding Splint in Position. B—Screwdriver. C—Awl, for Entering Inverted "V" Spaces. D—Silver Dento-Maxillary Strips. E—Set Screws.

### A SILVER DENTO-MAXILLARY SPLINT.\*

W. J. THOMPSON, M. D.,

CHICAGO.

Fractures of the maxillae are not uncommon; especially is this true of the lower mandible. Apparatus for their correction are many and most of them complicated as to mechanical parts and application. Therefore their efficiency is often negligible in a great per cent. of cases.

The silver dento-maxillary splint as described below was devised and is reported on account of the inexpensiveness, simplicity, and the mechanically favorable results obtainable.

#### DESCRIPTION OF APPARATUS.

The apparatus consists of two solid silver plates which are made from 24-gauge sheeting, each plate is one-eighth to one-sixth of an inch wide; the length is optional, varying from one

ilization purposes), a light pair of angulated artery or nasal forceps, and a small tapered awl.

#### APPLICATION.

The application is decidedly simple. The patient is anesthetized and the fracture reduced. If the fracture is comminuted, all spicules of bone are removed and the line of fracture irrigated with normal saline solution. With the assistant firmly supporting the bones in alignment the plates are applied. The threaded plate is placed posteriorly, snugly against the back of the teeth and set well down on the gums. (The plate can then be held with one finger or the angulated forceps.) The anterior plate is closely applied to the front of the teeth, resting well down on the gums. One set-screw is then inserted through one of the holes of the anterior plate and passes through inverted "V" space between

\*Demonstrated before Englewood Branch Chicago Medical Society, Dec. 2, 1913.



the teeth. This triangular "V" space is formed by the slanting sides of the teeth and the dental surface of the maxillae, and is filled with the tissues covering the latter bone. It is necessary in most cases to push the gums back slightly in

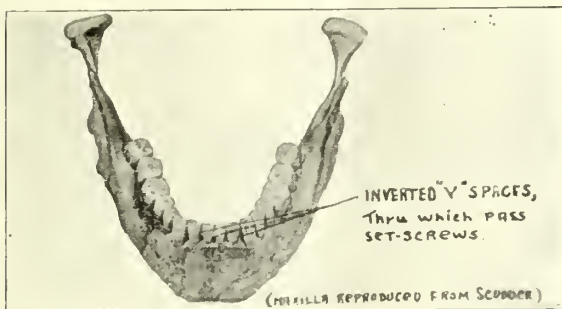


Fig. 2. Inverted "V" Spaces, Formed by Sides of Teeth and Dental Surface of Maxillae. Through These Spaces the Set Screws Are Passed.

order that the set-screw may pass between the teeth through inverted "V" space. The first screw is inserted one or two spaces from the line of fracture; the second equi-distant on the other side. If greater stability is demanded by the nature of the fracture, two or more screws should be inserted to the outer side of the first two, that is, in the contiguous inverted "V" spaces.

A four-tailed bandage applied for first three days or so insures a sense of comfort and security to the patient.

The splint is removed when union has taken place, the length of time varying with the individual ease and possible complications. In my experience with three cases the plates have been removed during the fourth week with excellent results.

The tissue pushed away and displaced by the screws entering the inverted "V" spaces, closes in rapidly in six or seven days. Any superficial necrosis or ulceration occasioned by the screws pressing upon soft tissues, responds readily in several days to simple treatment.

#### CASE REPORTS.

*Case 1.* Boy, three years old. While playing in public playground was struck direct blow on lower maxilla in midline by the end of moving swingbox. Result: a median fracture of the lower maxilla with through and through wound of lower lip and incised wound beneath chin. No teeth broken. Boy brought to my office two hours after accident, where examination revealed above tabulated gross pathology. A temporary four-tailed bandage was applied and boy

taken to hospital. For three days the teeth were held in alignment (very inadequately) by cat-gut. Not satisfied with the fixation I devised the splint above described. The apparatus was applied in my office the 5th day and removed on the 28th day. The boy has perfect alignment of maxillary parts and teeth.

*Case 2.* Boy, eleven years old. Kicked by horse while running boys out of private market grounds. Result: a compound comminuted fracture of lower maxilla one-half inch to right of mid-line. The outer right half of the lower lip was lacerated. The fracture was compound, inferior right aspect of chin. The boy was brought to my office one-half hour after accident, temporary dressing applied, and then taken to hospital where silver dento-maxillary splint was applied under anesthesia. Apparatus removed thirty-two days later. Resulted in perfect alignment of maxilla and teeth.

*Case 3.* Man about 40 years old with fracture anteriorly through right mento-foramen, and a second  $\frac{1}{2}$ -inch anterior to ramus of lower maxilla (left



Fig. 3. Splint Applied—Case 2.

side). Teeth wired anteriorly 24 hours after accident; posterior fracture not treated.

Third day posterior fracture was wired through bone. Fifth day wiring anteriorly of teeth loosened.

Dr. H. E. Walsh asked writer to apply the silver

dento-maxillary splint. This was done and fragments came into alignment perfectly.

Five weeks later the splint was removed.

Result, incomplete union anteriorly and slight downward sagging of fragment from anterior fracture to one posteriorly.

The partial failure in this case was due to faulty mechanical application of splint, and movement per-

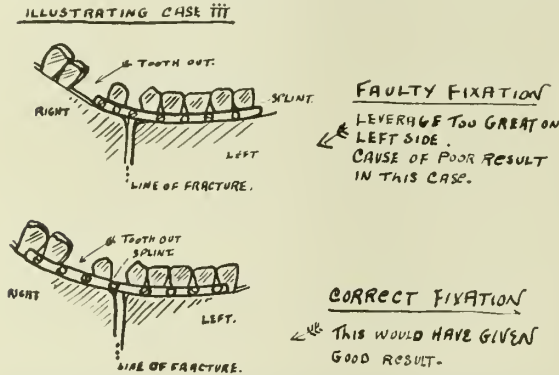


Fig. 4.

mitted fragment by wire fixation of posterior fragment. See illustration.

However, the patient has a functioning lower maxilla and in view of the gross pathology of the fractures, the end result is satisfactory.

5258 S. Halsted Street.

#### CONCLUSIONS.

1. Preservation of natural alignment is perfect.
2. The jaw is divested of its function only 3 to 4 days.
3. Fractures with external wounds are easily dressed without disturbance of apparatus or alignment.
4. The plates may be adjusted each day by tightening screws.
5. There is no uncomfortable apparatus to be worn over long period of time.
6. Cosmetically but slightly noticeable, and then only when mouth is open.
7. Malleable: Therefore conformable to any peculiarity of teeth, fracture, etc.
8. Technique of application simple and rapid.
9. Inexpensive: Same splint may be used indefinite number of times.

N. B.—Since the demonstration of the Silver Dento-Maxillary Splint, another case has been added to the first three. At this writing the case is progressing satisfactorily. (Dr. Lanzer's service. Englewood Hospital.)

## A FEW GENERAL OBSERVATIONS ON INFANT FEEDING IN THE EARLIER MONTHS.

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Successful feeding, even of normal infants, is not always a simple task; moreover, we are consulted by the parents, as a rule, only when the baby is not doing well, is not gaining in weight, or perhaps has developed a gastro-intestinal disturbance of more or less severity.

Of the two principal systems of infant feeding, I believe that for simplicity and wide range of adaptability, the so-called caloric method of the whole milk feeding, advocated by the German school of pediatrics, has many advantages over the percentage method which is so popular in this country, particularly in the East.

While I do not maintain that babies fed on caloric principles are any better off or that the morbidity is necessarily any less than among those fed by percentage methods, I believe that the nearer one gets down to basic principles and general simplicity in infant dietetics as well as in materia medica, the quicker and more satisfactory are the results.

For this reason, if not any other, the simpler caloric system of infant feeding appeals to me as being scientific, easy of practice, and when followed with intelligence and discrimination, a valuable guide to success in that important branch of pediatrics.

As a fundamental proposition, I believe we must always keep in mind Czerny's conclusions, that each infant is a law unto itself and must be treated as such. With this principle in view the practitioner, no matter what system of feeding he follows, cannot consistently adhere to cut and dried formulae or pursue routine or unscientific methods.

Fortunately for the baby it usually inherits, other things being equal, a surprising tolerance for foods or food stuffs and the various shot-gun milk and cream mixtures or other food combinations which are allowed to enter its small stomach are not infrequently digested and assimilated with apparent ease. Those of us who have to do with infant welfare work or dispensary cases among children are often brought to a realization of this interesting fact.



The average text-book on pediatrics devotes many pages to the subject of infant feeding and contains innumerable rules and directions for arriving at the proper percentages in the preparation of the various milk and cream mixtures. It also usually contains formidable arrays of figures of mathematical calculations or even algebraic equations which only tend to confuse the seeker after knowledge in the matter of infant dietetics.

I do not suppose that I would be justified in considering the percentage method of feeding really difficult or complex, especially when one is accustomed to "thinking in percentages," as it has been aptly termed, yet it will nevertheless bear considerable study even by those who are more or less accustomed to its use. Taking the system as a whole, however, it has never impressed me as being as simple and as easy to put into practice as the different authors would have one believe. At any rate it seems to me essentially a system for the use of those having large hospitals, diet kitchens or milk laboratories at their disposal, where trained assistants can wrestle with the desired percentage of fat, carbohydrate, or proteid or juggle the "top milks," the ferments or the alkalies according to the physician's prescriptions.

However this may be, it really makes little difference to the anxious mother whether her baby is gaining weight and thriving on percentage methods or on the simpler caloric estimates. I believe, nevertheless, there is a tendency among some physicians to copy a given formula out of a favorite text book, pronounced suitable for the age of the baby in question and "try it on." If the child thrives, well and good; if trouble starts perhaps he starves it on barley water for a while and begins all over again. If the baby is rugged enough to develop a food tolerance commensurate with the doctor's method of feeding it may bridge itself over until the later months of its life; what more frequently happens, however, is that a gastro-intestinal difficulty is incubated, which sooner or later makes its appearance.

It has been claimed by adherents of the percentage method that caloric estimates are only of value to "check off" as it were the amount of food energies a given infant is receiving in order to guard against over or underfeeding. If this be true, then herein, I believe, lies an admitted

weakness of the percentage system as a whole, if the caloric field must be invaded to find out whether a baby is being over or under fed.

We know from the previous investigations of Heubner and Rubner, that a breast-fed infant requires the caloric energy of about 100 calories per kilo of body weight, or about 45 calories to the avoirdupois pound in the 24 hours. This to be regarded as a general rule without the idea of regulating the nutrition of the infant as a whole. Herein the caloric method provides its own check or limits above or below which it is usually unwise to pursue for any length of time in the average child.

As Grulee states, "If with no diminution of scientific principles and no increase of morbidity, some method can be substituted for the percentage method it should be given the preference. Furthermore, it has been responsible for the erroneous idea that the protein is the source of gastro-intestinal disturbances in infancy. If the percentage method means simply a calculation of the percentages of certain mixtures in order to determine their strength and by increasing or diminishing one or more of these, one is able to arrive at the proper food for the infant in question, it is so comprehensive that no one can deny its adaptability, though we may seriously doubt the necessity of such a procedure."

Assuming that we have before us a child not under three months of age, who must be artificially fed, what is the best way to start it aright? There are four important questions to be primarily considered.

1. The amount of milk mixture to be offered in each bottle, estimated on the baby's stomach capacity, at its particular age.

2. The total number of feedings to be given in the 24 hours, which means also the total quantity of milk mixture to be made up for that period of time, and the feeding intervals.

3. The total number of calories required by the particular infant during the 24 hours, based on the estimate previously referred to, of about 45 calories to the pound weight up to the age of six months. Beyond this age, it has been found that a maximum of 40 calories per pound or 90 per kilo is usually sufficient.

4. The amount of whole milk to be used, the nature and amount of the dilutant, whether barley, oatmeal water or plain sterile water or what

not, and the nature and amount of the necessary carbohydrate addition.

Returning to the first proposition, as to the quantity to be offered to the baby at each nursing, I believe that an insufficient quantity is frequently given, particularly when the child is on longer feeding intervals than three hours. Undoubtedly some of the fluid contents of the milk pass immediately through the pylorus at the time of feeding, especially in a hungry baby, and for this reason, it has been found that the child can be allowed slightly more than its stomach capacity (from one-half to possibly three-quarters of an ounce). Thus a baby three months old could be given from 5 to 5½ ounces at each feeding, at six months 7 to 7½, at nine months 8 to 9 ounces—between these ages in proportion. I have at the present time an infant under observation, 13 weeks old, that takes a full six ounces at each feeding, and would like more. It is making a normal progressive gain in weight and has had no symptoms of indigestion, such as regurgitation, or distention.

The second question as to the total number of feedings in the 24 hours or the feeding intervals, I believe, as do others, that under ordinary conditions best results are usually obtained by the four hourly interval. I find this particularly true, when giving the stronger milk combinations of the caloric equivalents. It is often extremely difficult, however, to successfully establish this rule, particularly in those babies who have been accustomed to more frequent feedings and who have had their own way more or less as regards their meal hours.

Under normal conditions infants over three months of age will usually thrive on not over five feedings in the 24 hours. I have rarely given over six, and then for a relatively short time only. For babies under three months I usually prescribe six feedings in the 24 hours, never over seven. In the first instance, the feeding hours would ordinarily be at 6 and 10 a. m., 2, 6 and 10 p. m., or if more convenient, at 7 and 11 a. m., and 3, 7 and 11 p. m. In the younger infants on a four hourly six feeding schedule, the last bottle would be given in the early morning hours at 2 or 3 a. m., and if on a three hourly seven feeding schedule, the last nursing would be at midnight or 1 a. m. In many cases, however, it will be found that the night feedings after mid-

night can soon be dispensed with and the milk prepared accordingly. In many cases it is desirable to do so as soon as practicable. Should the baby waken and demand attention or seem hungry, a bottle of plain sterile water may be given, sweetened with saccharine instead of sugar, in the proportion of ½ grain to the pint. The above applies to breast fed infants as well.

Considering the third and fourth questions: First as to the amount of whole milk to be used in a given mixture—it has been shown by Allen (*Arch. Ped.* 24, 1907), that an infant requires the proteid of an ounce of milk to the pound weight, to maintain, theoretically, the nitrogen equilibrium, and to supply enough to cover waste and to provide for bodily growth, the proteid of one and a half ounces of milk to each pound of body weight is necessary in the 24 hours. The caloric value of one ounce of whole milk as commonly supplied in our city dairies approximates 22 calories. This estimate will be found near enough for all practical purposes—that is, 4:4:4, or about 4 per cent. proteid fat and sugar.

As a diluent plain sterile water is to be preferred for infants under two months of age; otherwise the old stand-bys such as oatmeal or barley water usually answer all purposes.

Much has been written on the assimilation of the various sugars and other carbohydrates used in infant feeding, but without attempting to discuss this extensive subject in all of its scientific detail, I will say that of the three sugars, viz.: milk, cane and malt sugar, the last named has been found to be more easily assimilated than the other two kinds and babies usually can take larger amounts of this form of sugar than any other. According to Reuss, Grosz, and other observers, the ratio is 3.1 grammes per kilo of body weight for milk and cane sugar as against 1.7 grammes per kilo for malt sugar.

Even so, however, I believe that malt sugars are often given to excess, particularly to younger babies. One should commence with not over one or two level teaspoonfuls of malt food to the total milk mixture for the 24 hour feeding. This for an infant from two to three weeks old, gradually increasing the amount daily according to circumstances. Any tendency to colic or gas formation is an indication of its indigestion; in which case the amount should be promptly reduced.



While the recommendation by the physician of the various proprietary foods may be open to criticism, it must be admitted that certain of these which are intended to be used with milk have an undisputed value and cannot be wholly condemned. While, of course, the indiscriminate use by the laity of the various brands of baby foods is to be discouraged, I see no reason why certain of these, if their composition be definitely known and if used with a definite purpose in view, should not be recommended. Why for instance, should we not sanction the use of Mellin's Food, as readily as we do some of the other dextro-maltose preparations of proprietary manufacture, or in fact any of the other foods or food-medicines put out and extensively advertised by pharmaceutical houses? As Dr. Holt says, it may not be necessary or even desirable to know all about the infant foods with which the market is flooded, nevertheless one is not infrequently questioned by the parents, as to this or that food which someone else's baby "did so finely on." Wholesale condemnation of proprietary foods in such a case may be strictly ethical but is not always convincing to the questioners. Intelligent explanation of the scientific principles involved and an impartial discussion of the value of the various brands of infant foods, their use and abuse, is not only just but a more desirable policy in my opinion, inasmuch as the physician is generally looked upon by the laity as an authority on all questions pertaining to infant dietery, including proprietary foods.

The addition of alkalies such as sodium bicarbonate or lime water is usually unnecessary if not actually contra-indicated in certain cases. While one may not be justified in drawing conclusions from only a few instances, it seems to me evident that the use of lime water in certain milk combinations, particularly in those containing malt sugar in any form, is productive of symptoms indicating indigestibility. I have in mind a case where the mother at the suggestion of a female relative added a small quantity of lime water to the baby's food for the day. The child, which up to that time had been digesting its food well and gaining progressively in weight, immediately began to have colic with constipated stools, all of which promptly disappeared on withdrawal of the lime water. Similar difficulty was experienced in two other cases where

malt sugar was being used by the physician in attendance, when cane or milk sugar previously used had not apparently produced any symptoms in combination with the lime water.

The occasional use of sodium citrate as suggested by Wright and Poynton of England is sometimes of value in softening the curd and aiding the digestion of cow's milk and one sees frequent use made of the so-called "citratated milk" in the various London hospitals.

While this drug should be probably classed with the other alkalies, it has been found that it has little, if any, anti-acid effect. Its reaction in solution is only faintly alkaline and its effect, if any, on the gastric juice must be less than that of lime water or bicarbonate of soda. It is thought to combine with the casein of milk so to form a compound that curdles slightly, if at all with the rennet.

This drug is prescribed in the proportion of one grain to each ounce of milk used in every feeding, but never over five grains to a feeding of any quantity. Generally three or four grains are sufficient for a three to eight-ounce bottle. According to Goodhart and Still, ten grains to a feed was observed to cause an edematous condition similar to that sometimes seen in marasmic infants. The objection to its continuous use, however, is its distinctly constipating effect, which is a factor to be considered.

As a rule little attention is paid to milk dilutions when feeding on a calorie basis, though as we know, the younger the infant the smaller is its tolerance for anything but breast milk, consequently great conservatism is necessary when dealing with babies during the first eight or ten weeks of life. If, after the first three weeks it becomes necessary to rely wholly on artificial feeding, it will be found that the youngest can usually take a mixture a little less than one-half milk and sterile water, that is, if the baby is to have seven feedings of three ounces each, of the total quantity of twenty-one ounces for the 24 hours, about ten ounces would be whole milk and the rest the dilutant. The sugar content in this case would preferably be some form of malt sugar as before stated, beginning with not over  $\frac{1}{4}$  ounce in the entire 24 hour quantity and increasing gradually day by day, depending on the reaction of the baby to this carbohydrate, and at no time to exceed 5 per cent. of the total

quantity for the 24 hours. It will be found that the child soon gets to the point where it is satisfied and begins to gain in weight.

Liquid extract of malt is valuable in such cases, changing to dextri-maltose in the later weeks, or Keller's Malt Soup, which is a malt extract neutralized by the addition of potassium carbonate, and has a caloric value of 80 calories per ounce.

Holt teaches that artificial feeding, when properly done, gives better results than poor or doubtful nursing and he believes it better to stop breast feeding after a fair trial than to waste time in futile attempts at improving the mother's milk.

To determine this question is one of the most difficult problems we are called upon to solve. While I do not wish in the least to minimize the supreme value of breast milk over all other forms of nutrition, I believe we err on both sides of the question and babies are often forced to remain at the breast, when partial or even complete weaning is clearly indicated. Considering also that manifestations of faulty nutrition, such as rickets, are not infrequently seen even in breast fed infants over six months of age, the question of artificial feeding becomes of considerable importance.

Present day betterment in living conditions generally, improved hygienic surroundings, even in the poorer sections of the cities, the increased safe-guarding of the sources of the various municipal milk supplies and the fact that it is now possible to obtain an almost bacteriologically pure milk, are all, in my opinion, important factors influencing the relations between breast and bottle feeding. While in the majority of infants under the age of six months mother's milk cannot and should not be supplanted either wholly or in part, if it is at all possible to maintain the maternal supply, I believe, however, that we frequently find many instances where babies six months of age or over should be promptly and completely weaned, irrespective of the season of the year, when they are not progressing favorably, or gaining satisfactorily in weight, on the mother's milk.

It should also be borne in mind, and herein is a principle not often recognized and intelligently followed, that the addition to the infant's dietary of soups or broths, stewed fruits, orange juice,

rice or farina, and properly prepared vegetables are desirable after the sixth month, furnishing to the infant's organism the salts or acids which are utilized in the body metabolism. This permits the gradual diminution of the daily amount of milk ingested, to a pint or a pint and a half, or at most in any case, not over a quart per day.

Babies so fed usually take greedily to one or all of these various articles of diet, though to be sure individual peculiarities of taste or idiosyncracies may develop, which often tax one's resources or ingenuity to the utmost and not infrequently it may be found necessary to fall back more or less on the milk.

No doubt most of us have had to do with the type of infants who while apparently healthy in every respect and gaining satisfactorily in weight, still maintain a pale, milky complexion, or one might say a "milk fed" appearance, which no amount of fresh air or hygienic management seems to correct. Such babies seem to be in a class by themselves, and do not rightfully belong to those types which are seen in the various pathologic conditions known as the spasmophilic type, the exudative diathesis or the rachitic. In such cases an early departure from an entire milk diet, and the addition of the cereals and particularly the vegetables, such as spinach, carrots, beets and baked potatoes, will be found of great benefit.

In conclusion, I will say that while one should not allow modern or improved methods of artificial feeding to influence us to the extent that we lose sight of the fundamental principles of infant feeding, which are the maintenance and conservation of the maternal milk supply, yet if it be found necessary or expedient to supply a modern system of artificial feeding with all its attendant safeguards as to cleanliness, purity of milk, hygienic management and other precautions, we can at least meet the issue boldly and be more assured of success than in the by-gone days when the act of weaning a baby seemed almost like signing its death warrant, which not infrequently was the case.

Whether we are disciples of the percentage method, or whether we swear by caloric principles in these matters of infant feeding, we are bound for the same goal, only by different routes. Inasmuch as in this case the shortest route is gen-



erally the safest, provided it complies with the various scientific requirements, I believe that the caloric method meets all of these requirements and is the shortest, safest and best way we have at the present time to guide the infant during the first ten or twelve months of its development.

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### INTRAVENOUS MEDICATION.\*

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The object in mind in producing this paper is that of reporting clinical results that may be obtained from known agents by giving them in the vein. It is not my intention to discuss at length either pathology, symptoms, or diagnosis in any of the cases reported. I feel that a very essential part of this paper is to discuss the anatomy of the region wherein the vein chosen for injection is located, as well as an acceptable technique of procedure.

The injection of any substance directly into the vein for the purpose of cure in diseased conditions is a procedure that has been resorted to but rarely until recent years. During the past five years this method has rapidly come into use, and because of the simplicity of the technique has already become a routine method of treatment in certain conditions. It is only in those individuals with considerable deposits of fat in the superficial fascia that some difficulty may be encountered in following this method of treatment.

The veins generally found to be the most easy to inject are the basilic, cephalic, median cephalic, median basilic, radial, ulnar, jugular, internal or external saphenous, and the veins of the temporal region. Particularly in children is the latter site found to be the most desirable. That portion of the basilic vein between its point of union with the median basilic and the point where it dips down under the deep fascia is, in the majority of cases, the most accessible in the average adult. A glance at the anatomical relations of the different veins at the bend of the elbow shows us the brachial artery passing in an oblique direction and underneath the median

basilic. In view of this, great care should be exercised if this vein is selected for use. It will also be noted that the internal cutaneous nerve passes upward in the median aspect of the basilic vein from its origin to the point where it passes under the deep fascia. Hence when this portion is selected for injection, care should be used that the needle is passed into the vein from its lateral side, thereby saving the patient considerable pain if the transfixion of this nerve is avoided. While the cephalic and the median cephalic are smaller veins and consequently not so easy to inject, still their anatomical relations are such that no harm can result if the needle should pass through both walls of the vein and into surrounding structures. The ulnar vein in the last two inches of its course and just before its union with the median basilic also offers a safe site for injection, as does the median before its division at the bend of the elbow. If one uses care in doing vein injections, I do not believe any serious accident can result if the anatomical relations are kept in mind.

Next in order is the technique: First of all, the skin should be properly sterilized. By this I mean washing the skin of the site selected for injection for five to ten minutes with green soap and sterile water, then dry the skin with sterile sponge and wash well with alcohol. The operator's hands are scrubbed with green soap, dried with sterile towel, and washed in alcohol. The syringe and needle should be boiled for five minutes. The agent for injection must be known to be sterile, or else sterilized by boiling. With this sterile preparation one can proceed to inject. For the purpose of distending the vein and thereby making it more easy to inject, a small towel is folded three or four times and wrapped around the limb above the sterilized area. Over this a rubber tube is placed around and drawn tightly. In some cases where the veins are prominent this method is not necessary, and simply the constriction of the limb above by the hand of an assistant is all that is necessary to distend the vein. A sharp needle is very necessary to do satisfactory work. Not only does a dull needle prove a considerable handicap to the operator, but it is also a menace to the patient, making it more easy for skin infection to result, as well as doing greater damage to the vein wall. If a syr-

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\*Read before the Henderson County Medical Society, November 4, 1913.

inge is used, the body should lie as closely to the patient's skin as possible, the needle pointing toward the direction of the blood flow. As quickly as possible after the needle has entered the vein, the rubber tube or whatever method of compression used, should be removed. I may say that no matter what agent is used to inject, it should be passed in very slowly. If undue haste is shown the patient will invariably be made dizzy and often a severe headache will result, nausea is frequently created and vomiting may result. This is especially true with salvarsan or any other agent, the dilution of which includes the use of a considerable amount of water. After completing the injection and withdrawing the needle, the puncture site is painted with tr. iodine.

A word concerning the comparative effect of different agents when used under the skin, or in the muscle, or when used in the vein. While there is considerable difference of opinion concerning the advantage of either the skin or muscle route, still I feel that it is largely a matter of personal preference except if the agent to be used is one that produces a violent local reaction, in which case I believe that such agents should never be given either under the skin or in the muscle, but rather intravenously. One particular result to be looked for in vein work is the speedy relief of pain and improvement of symptoms. It is, in fact, not an uncommon experience to get little or no result from subcutaneous or intramuscular injections, particularly in chronic infections, where passing from a third to two-thirds of the same agent into the vein will result in a cure.

I would next consider dosage of agents to be used intravenously. I feel that the operator cannot be too careful in the selection of the inaugural dose. We must not forget that certain individuals have a marked idiosyncrasy for certain drugs and when given the usual dose of those drugs violent toxic symptoms result. This same fact should be always kept in mind in using either biological products or drugs intravenously. While the condition of the patient as well as the particular agent to be used should always be considered, still one is generally within safe limits if the beginning dose is never more than one-tenth of the full dose of the agent to be used.

If this amount is not followed by a severe reaction, then the dose may be increased gradually except when marked reactions occur. The dose producing the reaction should be repeated until the severe reaction does not occur, when the resumption of the increasing dose should proceed.

Passing on to a consideration of the clinical manifestations that follow an intravenous injection, I may say that the different agents determine the different reactions obtained. Biological products always produce an increase in temperature of from one to three degrees with some corresponding increase in pulse and respiration. The reaction begins with a chill which may vary from simply a sensation of chilliness to a pronounced shiver, and which may last from thirty minutes to one hour. The temperature then begins to ascend and the patient begins to feel comfortable. More or less sweating follows the temperature period, and at the end of 24 to 36 hours the temperature is again normal. Severe reactions are always to be avoided and their occurrence always means too large a dosage. They further weaken the patient and do not hasten his ultimate recovery. Of the drugs given intravenously, salvarsan, by far, heads the list. It is of this drug that I desire to speak at this time and to say that of all the agents to be used in the vein none should be more carefully used than this. If a vaccine or any other biological product or any blood or cardiac stimulant be the agent used and the operator should not get every drop into the vein, the consequences are not of any great moment to the patient from the standpoint of discomfort. While the area of injection about the vein may be very sore for a few days, still there is no severe pain following the injection. But with salvarsan or neosalvarsan the result of not getting every drop into the vein will be that the patient will suffer severely for hours or days as a result of a few drops of the solution escaping into the surrounding tissues. In giving salvarsan I do not use a syringe, but instead use two cylinders of 300 CC capacity each and connected with rubber tubing at the bottom and these in turn with two-way switch and needle below. One cylinder is filled with salvarsan solution, proportion 1:25, and the other with sterile salt solution. After insertion of needle, salt solution is turned on, and when needle is seen to be



properly in the vein then the salvarsan solution is let into the vein slowly. In the giving of this agent the patient should not experience a particle of pain during its injection. This route is the only one that is at all tolerable where this drug is indicated.

With this outline of the anatomy and technique, I will recite a few case histories and give results following the use of certain agents used intravenously:

In December, 1910, M. H. R., male, single, aged 29, consulted me suffering from what had been called rheumatism. His tonsils had been removed several years before the inauguration of this attack, and his abdomen was negative for pain or tenderness. The only significant fact in his history was that 15 months before he had had an acute attack of gonorrhoea. He was promptly treated and all signs of the disease disappeared in three months. Examination of mouth revealed no pyorrhea present.

About three months ago his right knee and ankle became painful and swollen, and additional joints soon being involved to such an extent that he was confined to bed and not able to turn or feed himself. Examination revealed both ankle, knee, wrist, elbow, finger, and toe joints swollen, and painful upon motion. Temperature 100.1; pulse 98; respiration 22. Blood examination negative except for W. B. cells found to be 15,000. Being at a loss to account for a focus of this man's infection, I had a blood culture made, hoping that something might be found. Fortunately a small coccus was grown and from this an auto vaccine made, dose to 1 CC 500 million.

His treatment consisted of .2 CC of this vaccine, intravenously, every second day for three doses, then every third day for three doses. After the second injection he was able to feed himself, walk about the hospital, and had no pain. His improvement was rapid, and on the thirteenth day he insisted that he was well and returned to his home. The highest dose given this man was .5 CC. Total dosage 2.4 CC. The first dose was followed by a temperature of 104.6, which did not return to normal for 48 hours, but the subsequent doses were followed by temperature increases of but two and then one degree. There are two points particularly worthy of mention in this case, and they are: First, the complete relief from pain within the first three days of treatment; second, the rapidity with which this man's swollen joints subsided and he was again able to get about.

The next case is one of general lung infection, and while repeated smears of the sputum were made, always with the conviction that this patient had tuberculosis, still we were unable to find the tubercle bacillus. H. M., female, single, aged 23, came under observation in February, 1912, her complaint being a chronic cough with acute exacerbations at times resembling asthma attacks. Family history negative. Personal history marked by no serious illness. About

three years ago she contracted a severe cold with coughing, and the cough has persisted in spite of occasional treatment. While she seemed to be getting air into every part of the lung, still the respiratory note was high and some moist rales in both bases. The expectoration was thick and of the mucopurulent type, largely present in the mornings. No tuberculin test was given this patient because of its unreliability in cases of this kind. I have come to look upon a negative tuberculin test, given subcutaneously, as fairly dependable, but positive tests have been shown to occur in many conditions not tubercular. Laboratory report on sputum cultured showed pneumococci predominating, with staphylococci very numerous, and a few streptococci. While other cocci were present, only these were recognized and more or less typical. A mixed autogenous vaccine given subcutaneously, guaiacol by mouth, and rest in bed for six weeks was followed by marked improvement. Resumption of an active life again brought back the cough, and in ten weeks her cough was about the same as before treatment. She was again placed in bed and the same vaccine given, intravenously, in increasing dosage. Eight weeks treatment again caused the cough to cease and the expectoration to all but disappear. I then advised her to spend the coming winter in a warm climate which she did, and at present, somewhat over nine months after treatment, she coughs but rarely. I should like to add this comment on this case:—while she seems well and has gained in weight, yet the permanence of the result is questionable, especially if she continues to reside in Illinois. These resistant coughs are generally amenable to subcutaneous vaccine treatment, and in my judgment, should be treated that way with suitable adjunct treatment. When these means fail then I feel that intravenous treatment is indicated.

My next case is one of bronchial asthma. Since the announcement some three years ago that the bacterial extract, known as phylacogen, had given decided relief in a high per cent. of asthma cases, I have had the opportunity of using it in ten cases of that disease. The ages of the patients varied from 10 to 69 years. But one case gave a history of asthmatic heredity. Three cases were treated by subcutaneous injection, and seven intravenously. Of the three treated subcutaneously, one still enjoys complete relief two years after treatment; the other two are fully 50 per cent. relieved. Of the seven intravenous cases, four are still completely relieved, one was not relieved at all, and two were completely relieved for about six weeks and the symptoms gradually began recurring. The treatment of these cases is still too recent for one to say just how permanent the results will be. Only two of these cases had suffered from asthma less than ten years. These two cases were both cases under 20 years of age and are still completely relieved. Many interesting facts were brought out as a result of treating these cases, but at this time I will report the case history and method of treatment in but one case.

In July, 1912, E. H. M., male, aged 42, came under observation suffering from bronchial asthma. While he has had the disease for about 20 years, he has had particularly severe attacks every few weeks during the past five years. His family history for asthma of any type or any neurotic manifestations were negative. Has lived in the country all his life and enjoyed good health, with the exception of this condition.

He was put to bed and 5 CC of mixed infection phylacogen was given, subcutaneously, the first day. The following day .5 CC was given intravenously. The dose was increased 1 CC daily until 10 CC was being given at the dose. This amount was repeated daily for seven days. The reaction which follows the intravenous administration of phylacogen is not unlike that which follows the giving of a vaccine. Inasmuch as we are told that phylacogen is a solution of the metabolic products and the crushed bodies of bacteria while the vaccine is a suspension of the uncrushed bodies of bacteria, one could not expect a great difference in their physiologic action. This man was completely relieved of his difficulty in breathing five days after the beginning of the treatment. At the completion of the treatment he stated that he could not remember when he had breathed so freely, and examination of his lungs revealed virtually normal breath sounds and absence of rales. Six weeks after his discharge he returned saying that he was beginning to notice a slight tightness in breathing. This difficulty has increased somewhat, but slowly, and at this time, a little over a year after completion of treatment, he states that he is 50 per cent. better than before treatment. This same recurrence of symptoms after completion of treatment characterized the course of four of my ten cases. Whether or not the symptoms will continue to recur until the patient returns to the condition he was in before treatment, remains to be seen; and it further remains to be seen whether or not some patients now reporting themselves entirely relieved with this agent will continue to remain so.

My next and last case report is one showing the results that may follow the intravenous injection of salvarsan in cerebro-spinal syphilis.

A. A. B., male, married, aged 34, contracted syphilis thirteen years ago. He received treatment for about four months during the initial sore. Since that time, until two years ago, he received no treatment. His attention was first directed to an increasing uncertainty of station. Soon the girdle symptom appeared, marked rigidity of the spine, ankle clonus, frequent headache, constipation, insomnia, and a loss in weight of 40 pounds in the past two years. A severe iritis had responded to energetic mercuric treatment the year before. I might say that this man's symptoms could not be grouped in any one definite set of symptoms, which is no uncommon circumstance in syphilitic disease of the cerebro-spinal system, and while the pure uncomplicated cases of the several types are commonly found, still the combination of two or more groups of symptoms in the one patient is not un-

common. The symptoms in this case were of the latter type.

His treatment consisted of .3 grammes of neosalvarsan intravenously every seventh day, and .1 gramme of mercury salicylate subcutaneously every second day. He received the salvarsan for three months and the mercury alternate months. Then for a month he received no treatment. At the end of this month's rest from treatment he was again given the same treatment for another three months. During this last three months he was asked to practice walking and using his body and limbs. Seven months after beginning treatment this man was markedly improved. Uncertainty of gait had disappeared, as well as spinal rigidity and girdle symptom, appetite excellent, weight increased 9 pounds, and he could walk about the house and on the street without cane or assistance. I desire to say in concluding this case, that I feel much safer with the small dose of salvarsan at short intervals than a larger one at longer intervals. Inasmuch as the tolerance for this drug varies so widely I feel that one should always err, if at all, on the side of safety. While I have had no deaths result from the use of salvarsan, still I cannot forget that there have been considerably over one hundred deaths reported.

There seems to be little doubt but that salvarsan or neosalvarsan intravenously is indicated in the treatment of tabes, paresis, cerebro-spinal syphilis, or any combination of parts or entire groups of symptoms referring to the cerebro-spinal system and associated with a history of syphilis. I feel that even the absence of a specific history does not negative the indication. In three cases I have had the opportunity of carrying out treatment by this method, one case giving no specific history, still the result was a decided improvement and the restoration of the patient to a state of usefulness.

#### CONCLUSIONS.

Intravenous medication is a rational and safe method.

The simplicity of the technique will place this method among those that may be employed by any physician or surgeon.

While the reactions following the use of biological products intravenously are somewhat more pronounced than when used subcutaneously, the beneficial results are in much greater proportion.

The intravenous route should be resorted to after failure to secure results has followed subcutaneous treatment.

This route is by far the most tolerable for salvarsan or neosalvarsan.



## THE INTRAVENOUS ADMINISTRATION OF SALVARSAN IN THE TREAT- MENT OF SYPHILIS.\*

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CHICAGO, ILL.

During the last few years the discoveries marking important epochs in the treatment of disease have been so great as to astonish all of us. Of all the important things presented to the medical profession the greatest of these is salvarsan for the treatment of syphilis.

In September, 1909, the entire medical fraternity was thrilled by the announcement that Professor Ehrlich had presented to the profession an arsenical preparation for the treatment of syphilis, a single dose of which would probably cure the disease in any stage. This was the result of a long series of experiments and the diox-di-amido-arseno-benzol preparation resulting was given also the number of experiments, namely "606."

It was first presented to Drs. Alt, Hata and others for experimental work on animals, who found that recurrent fever in rats and mice could be cured with one injection and good results were obtained with syphilized rabbits. After dog experiments, two doctors tried it upon themselves, their only difficulty being pain at the point of injection.

Soon after this it was manufactured in large enough quantities to be obtained by the profession. But thanks to Professor Ehrlich's pamphlet of caution, it was handled with a great deal of discretion.

It is needless for me to dwell long on the reports of the wonderful cures at this time, for all of you know that the most startling results were recorded. Bresler reported primary sores showed marked decrease after a few days, the hardness disappearing, maculo-papular rashes, some moist and ulcerous, rapidly became pale or dried up and healed over, leaving flat pigmented spots. Tertiary sores healed in just three weeks. Negative Wassermann was obtained in active progressive cases, one, two and three weeks after one injection. This same wave of enthusiasm spread

over this country and now time enough has elapsed for us to quietly reflect and gather sufficient data from experience as to be of value.

Ehrlich and his assistants had hoped to have in salvarsan a "Therapia Sterilisans Magna" for the cure of syphilis, but it was soon learned repeated doses would be required. Nearly every kind of patient has been treated, from new born babes to syphilis in the aged, with some good and some bad results. It is true there have been some deaths from salvarsan, but the good effect is so striking and rapid there is no justification in withholding the treatment and now, with the improved methods and careful technic, there is but little reaction.

There are three methods employed for the administration of salvarsan—subcutaneous, intra-



Fig. 1. 1—Intravenous Injection Apparatus. 2—Filter Paper. 3—Graduate, Funnel, Glass Stirring Rod, Pipette. 4—Mixing Glass. 5—Blue and Red Litmus Paper. 6—Acetic Acid, 15%. 7—Sodium Hydrate Solution, 15%. 8—Mixing Flask. 9—Sodium Chloride, 0.5%. 10—Still. 11—Rubber Tube and Hemostat for Turnique.

muscular and intravenous. The subcutaneous and intramuscular injections had the shortest existence and are already obsolete and with them pass the many local irritations, as ulcers and sloughing, pain following the administration, etc.

The intravenous method is decidedly the best method of administration, but must be employed by one who is skilled in the technic and accustomed to the particular apparatus employed.

The apparatus, Fig. 1, employed by my associate, Dr. Pond, and myself, consists of two 50 cc. glass syringes connected to a glass "Y" by six inches of  $\frac{3}{8}$ -inch rubber tubing with  $\frac{1}{8}$ -inch lumen. Glass "Y" is connected by a short piece of rubber tubing to the sight glass, which is a glass tube six inches long, slightly tapered to fit one inch rubber tubing attached to needle. These needles are 20 g.  $1\frac{1}{2}$  inch with bevel ground down to about one-half the usual length and

\*Read before Physician's Club, Elgin, Ill., March 2, 1914.

slightly rounded. This is an essential point that the needle entering the vein does not penetrate the opposite wall before the solution is allowed to flow through. For stop cocks, one may use hemostats or rubber tube clamps; one between each syringe and "Y" and one between "Y" and sight glass.

The advantages of this apparatus are: 1. It allows the use of a smaller needle and thereby makes it easier to get into small veins. 2. The solution comes in contact with a minimum amount of metal (needle only) lessening the chance of corroded material to chip off and enter solution. 3. Stop cocks are of the compressible variety which are less liable to admit air. 4. The pressure of the flow is under direct control of the syringe.

It is just as important to prepare the patient before an intravenous injection of salvarsan as it is before an operation for appendicitis. The blood pressure is reduced by giving the patient cathartic eight or ten hours before the injection and nothing to eat until four hours after the injection.

One should estimate the amount of the dose to be given by the examination of the patient. If there is a weak heart, disease of the kidneys or a high blood pressure, one should start in with about half the ordinary dose. Weehsellmann in his "Pathogenesis of Salvarsan Fatalities" states: "Practically all fatal cases of salvarsan therapy in the persons of healthy, strong patients show the fatal combination of energetic mercurial treatment and the intravenous injection of salvarsan." It is especially essential to stop all mercurial treatment several days before the injection of salvarsan and not to begin for several days after the injection of salvarsan.

The still is started before the operation a sufficient length of time to insure freshly distilled water for all solutions. The apparatus is sterilized, including the solutions and glassware for the mixture of salvarsan. This part of the operation should be performed under aseptic conditions. The patient's arm is prepared surgically by the assistant, while the salvarsan is being put in solution, which is done as follows: The glass ampoule of salvarsan is broken and the powder turned into the 100 cc. mixing glass and dissolved in about 50 cc. freshly distilled water. This is agitated until every small particle of sal-

varsan is dissolved; then it is treated with about fifteen to twenty drops of 15 per cent solution of chemically pure sodium hydrate in distilled water to make it slightly alkaline.

The solution when first dissolved is acid. A few drops of sodium hydrate will throw down a cloudy precipitate. As the sodium hydrate is added, drop by drop, this precipitate will clear as the solution reaches the neutral point or becomes slightly alkaline. This solution is now added to about 250 cc. or 0.5 per cent chemically pure sodium chlorid solution and one of the syringes of the apparatus filled. The other syringe is now filled with 0.5 per cent chemically pure sodium chlorid solution. The apparatus is now adjusted in position and the tubes emptied of all air bubbles and filled with the salt solution. A tournique is placed around the arm of the patient above the elbow. A vein is selected and needle inserted. You will be able to know when you are in the vein by the flow of blood through the needle. The connection is now made to the needle while both the blood and salt solution are flowing. Then the tournique is removed and the salt solution or salvarsan solution is pumped into the vein at the will of the operator. It is always best to start with a flow of salt solution until you are sure you are within the vein. Then the salvarsan solution is followed with more salt solution washing out the tubes. If perchance the salvarsan solution is allowed to flow outside of the vein there will be considerable pain and irritation. The syringe may be repeatedly filled with the salvarsan solution by closing the stop cock between "Y" and sight glass and then when attachment is made again the syringe should be held in an upright position and the plunger drawn back slightly, which will allow the salt solution to flow through from the first syringe, discharging any air bubbles that may be made by breaking this connection, to the top of the syringe where they may be kept under observation.

The after effects on the patient should be nothing more than a slight headache and perhaps a raise in the blood pressure, ten to twenty points. If the effect be much greater than this, too large a dose has been selected for the patient or there is something wrong with the technic.

As to the number of doses that are required to obtain a negative Wassermann, it depends



entirely upon the amount of infection of syphilis carried by the patient and the strength of the patient to stand a maximum dose. In our series of cases we have both acute and latent cases which respond readily to a negative Wassermann after one or two injections. We have also other cases with acute symptoms, who have had five or six injections before a negative Wassermann could be obtained.

We have found it just as easy to obtain a negative Wassermann in cases having a history of the initial infection, fifteen to twenty years previous, as some of the cases of three or four months previous.

If the patient is unable to receive a full dose of the injection, it will be necessary to give the injections more frequently that good results may be obtained. I know of no patient who could be considered a fair surgical risk for a minor operation who cannot take a small dose of salvarsan. But as I have stated before, the patient should be examined thoroughly and the dose of salvarsan selected for the patient.

As to the permanent results, we believe that a permanent cure can be obtained with the salvarsan, but the patient should not be discharged until you have obtained a permanent negative Wassermann for at least two years after the last injection. Should the Wassermann test prove positive at any time, repeated injections of salvarsan should be given. At the present time the most popular treatment is to use salvarsan in repeated doses until a negative Wassermann is obtained and then follow it with a good course of mercurial treatment.

As to treatment of syphilis of the nervous system, we believe it is quite important not to stop with a negative Wassermann of the blood, but also have a negative Wassermann of the spinal fluid. The active principles of the disease may be arrested but symptoms caused by the destruction of tissue are not affected.

With neosalvarsan there is less reaction than with salvarsan; also less definite effect on the disease. Neosalvarsan is intended to simplify the preparation of solution but need not be used by those skilled in the technic of salvarsan. Arsenoxide is more liable to form from exposure to air and it is this that causes many serious reactions.

Swift and Ellis note in their reports that febrile

reaction may be overcome by use of freshly distilled water in all solutions.

#### CONCLUSIONS.

1. The intravenous method is decidedly the best method of administration.
2. "A dose of the drug must be carefully adapted to the individual case."
3. "The conjoint use of salvarsan with heavy mercurial treatment is dangerous."
4. "The technic must be exacting."

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#### RECENT ADVANCES IN OUR KNOWLEDGE OF PERTUSSIS.\*

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Perhaps the most important advance in our knowledge of pertussis is the discovery of a definite pathologic lesion. This was described by Mallory and Hornor in 1912. Microscopic study of the trachea and lungs of three patients who

\*Read before the Englewood Branch, Chicago Medical Society, at the meeting of Oct. 7, 1913.

died of pertussis showed a lesion which involved the ciliated epithelium of trachea and bronchi. It is apparently peculiar to the disease and offers perhaps a mechanical basis as the cause of the characteristic symptoms. It is due to the presence of great numbers of minute bacilli between the cilia of the cells—organisms resembling the Bordet-Gengou bacillus in type. The injury is mild. There is no cell necrosis and only very slight inflammatory exudate. The effect is probably mechanical, as from dozens to 100 bacilli lie between the cilia of a single cell.

The volume of recent literature and study now concerns itself with this small bacillus. It was first described by Bordet and Gengou in 1905, as very small, thin, oval, gram negative, building no spores. It grows only in the remoter parts of the respiratory tract, seldom above the larynx and in largest numbers in the early catarrhal stage of the disease. It grows best on defibrinated blood with agar containing extract of potato. It grows slowly, requiring 2-4 days to develop a whitish streak. Under the microscope it resembles the influenza bacillus, but not in cultures.

Now, is this organism the specific cause of the disease? To establish this fact we must consider it from the following standpoints: 1. Is it invariably associated with the disease? Yes! Bordet, Gengou and many others have found it almost invariably during the first three weeks and in some cases up to the eighth week. 2. Is it found in other conditions and in normal children? Only very rarely. 3. Does the blood of the patient agglutinate this bacillus? Yes, in dilutions of 1-60, although not absolutely constantly. Normal serum will agglutinate in dilution of only  $\frac{1}{4}$ . 4. Complement deviation: This was one of the main arguments of Bordet and Gengou and has been confirmed by Klimenko, Arnheim, Menschikoff and several Japanese observers. Pierre Weil found it positive not before the second week and lasting as long as three months. The French observer Rosenthal reports interesting confirmatory evidence. His pertussis patients all showed positive serum reactions for several years except two, and these got recurrent attacks.

Against these serum tests, however, some objection has been raised. The Japanese observers, Shiga and Eguchi, warn that agglutination tests are unreliable, as the bacilli normally tend to

clump. Selcourt got positive serum tests in some patients with only a slight cough and Poleff negative tests in two cases with positive pertussis. And we must not forget that these serum reactions would not definitely show the specificity of the organisms for the disease but only its intimate relation.

5. Naturally the most conclusive evidence in favor of the Bordet-Gengou bacillus would be its transference to animals. Bordet and Gengou tried this but did not get positive results. The first to come forward with a definite assertion was Klimenko. By rubbing bacilli into the throats of dogs and monkeys he produced a severe chronic cough—but without any whoop. Poleff confirmed this in rabbits, but utters a note of warning that many other organisms used in the same way would cause the same symptoms. It was now left to Frankel to be the first to cause a typical whoop in monkeys, but in his excitement over his achievement he forgot to recover the bacillus from his subjects—and science must be conservative and await absolute proof.

The most satisfying results so far have been reported by the Americans, Mallory, Hornor and Henderson. From patients with whooping cough they isolated the bacilli and injected them into the tracheas of dogs and rabbits. From these animals they again recovered the bacilli and carried them through another series. Puppies in contact with these puppies got the contagion. The original animals were killed and the identical lesion described in man—namely, many bacilli lodged between the cilia of the cells of trachea and bronchi—was found. So we must conclude that while even yet the problem is not absolutely settled—the latter animals did not whoop—still evidence speaks very strongly indeed for the fact that the Bordet-Gengou bacillus is the specific cause of pertussis.

Now as to treatment: In way of prophylaxis. At a joint meeting of the Chicago Pediatrics Society with the Board of Health in 1909 under the chairmanship of Dr. I. A. Abt the question was thoroughly discussed and Dr. Julius Hess urged that children be not confined to their homes but allowed liberty on condition that they wear a badge labeled "Whooping Cough." Thus every mother would be responsible and would aid in reporting cases. Morse of Boston evidently overlooked this report—it may not have been



published—in a recent article which calls attention to the gravity of whooping cough, the mortality in 1910 being surpassed only by measles, scarlet fever and diphtheria. In children under one year of age the death rate is 26.7 per cent. In only 29 states is pertussis a notifiable disease, in only 6 states is the house placarded, and in only 3 are there regulations as to how long the child shall be kept from school. In England children are kept away from school for six weeks. Morse urges a more rigid enforcement of isolation and advocates the same idea of placarding the patients that was discussed in our own pediatrics society in 1909.

In the way of a specific therapy the vaccine treatment holds the center of interest. Reports by Bamberger, Sill, Scott, Wilson, Lehman, Graham, Freeman, Ladd and others all report success. The dosage varies from 20-60,000,000 given every few days, depending on the severity of the case, every 1 or 2 days if necessary. No bad results have been reported and all writers—except Shiga and Eguchi—claim to have seen a marked improvement. The earlier in the disease the treatment is started the more marked are the effects. The disease is not shortened but ameliorated. The paroxysms are lessened in number, vomiting ceases, cyanosis improves and complications are aborted.

Vaccine has been used as a prophylactic. In a family where one child has pertussis, Sill injected two others four times with 20,000,000 and they were spared the disease. Scott reports excellent results from this method in three children tried.

The discovery of the bacillus, of course, at once led to search for a curing serum. The bacillus produces no definite toxin, but contains an endotoxin very fatal to guinea pigs. By injecting bouillon cultures into animals Klimenko produced a serum which he considered effective. The French have been using this serum. They report (Rosenthal) about the same results as the Americans and English do with the vaccine, not a cure, but an amelioration of the symptoms.

In spite of these results, if the reader may offer a word of criticism, we must not become overly enthusiastic over this specific treatment. We must not forget that many good clinicians have obtained equally good results from a purely symptomatic handling of their cases. Fraenkel and Hauptman say that with chinenol, a

new drug combining quinin and veronal in doses of 0.1 gm. daily they were able to accomplish all that the vaccine will do. This drug acts purely symptomatically, for when it is stopped the disease gets worse. They report 30 cases. Quinine, by some, is considered almost chemotropic.

Fletcher of Edinburg makes an interesting suggestion. Arguing from its effects in asthma, he uses adrenalin (1-3 gtt.) every three hours, and claims it stops vomiting, ameliorates the cough and even shortens the disease.

To sum up our knowledge of pertussis to the present day, then, we may say: It is a disease most intimately associated with and probably caused by the Bordet-Gengou bacillus. It has a definite pathology of its own. This can be reproduced in animals. It is a serious disease in young children and some form of isolation should be employed. The discovery of the bacillus is a great aid in the prophylactic treatment. As regards active treatment, we can aid our patients by a symptomatic course of adrenalin or quinin derivatives. In the way of specific therapy the use of vaccine will be the most satisfactory to those of us who are seeking distinct and direct lines of treatment.

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#### FLY DANGERS

Flies are positively known to be spreaders of filth and disease. They abound at summer resorts because an imperfect system of garbage and wastes disposal affords abundant opportunities for breeding of flies.

Swat the breeding places. Sprinkle kerosene over the garbage daily; sprinkle paris green solution over stable manure every day; use an abundance of chlorid of lime in the privy vault and pour kerosene down the drains occasionally.

The way to swat the fly is to swat the filth and the way to swat the filth is to swat the filth-maker. Now is the time to swat the filthmaker.

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Published monthly by The Illinois State Medical Society,  
under the direction of the Publication Committee of the Council.

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JUNE, 1914.

## Editorials

### THE ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY.

Another year has been added to the life history of the Illinois Medical Society. The Annual Meeting was held in Decatur on May 19, 20 and 21. The weather man did his best and gave us ideal weather conditions, which possibly accounted for the harmony which existed throughout the meeting.

The Committee on Arrangements—all of Decatur—had, at no little trouble, arranged for the entertainment and comfort of all who might be expected to attend the meeting. Every one was well cared for and went home glad that he had taken the time to go to Decatur.

A comfortable place was provided, in the Christian Church, for the general sessions of the Medical and Surgical Sections and for the exhibits. Some of the sessions of these sections were held in the beautiful and convenient assembly theater of the Decatur High School, where the stereopticon could be used conveniently. The House of Delegates met in the gymnasium of the Y. M. C. A. The local committee, evidently remembering some of the lively contests at recent meetings of that body, provided this athletic place

for the combats which might have been expected. The dove of peace reigned so undisputedly that the only criticism which might have been uttered was upon the poor acoustic properties of the hall.

The attendance was almost as large as at any previous meeting. The exhibits were larger in number and better in quality than ever before, and were placed in accordance with convenience and good appearance.

The scientific program, in itself, was well worthy the pilgrimage. The attendance at the different sections was uniformly good. Many times the large audience room was filled to capacity.

The paper, by Dr. Koessler, on the Immunization Treatment of Hay Fever, was timely and well prepared. Dr. Bacon, of Macomb, read a paper on the Ochsner Treatment of Appendicitis, based on experience during eleven years of himself and eighteen general practitioners. Needless to say, the surgeons made a valiant attack upon the conclusions of the writer. Dr. John Dill Robertson and Dr. John B. Murphy discussed the subject briefly and ably.

Dr. Patton's paper on Praecordial Pain in Heart Disease brought out a lively and interesting discussion.

The president's address was on a subject well chosen, in that it was largely devoted to the results of the abuse of alcohol.

The oration on surgery by Dr. Rilus Eastman, of Indianapolis, was on the subject of Colon Stasis. A symposium on Diseases of the Joints was opened by Drs. David J. Davis, of Chicago, Case, of Battle Creek, Billings and Murphy, of Chicago. The oration on Medicine by Dr. J. P. Sedgwick, of the faculty of the University of Minnesota, on Roentgenography in the Diagnosis of Diseases of Children, was illustrated by lantern slides. The Dermatoses of Pregnancy was the title of an interesting paper by Dr. Fishkin.

In the section for Eye, Ear, Nose and Throat an interesting feature was a symposium on Catarract. The following participated: Drs. W. L. Noble, W. A. Fisher, Oliver Tydings, and Watson W. Gailey. The long suffering tonsil was also attacked by a symposium in which the star parts were played by Drs. Freer, T. W. Lewis, C. F. Burkhardt, Geo. E. Shambaugh and A. M. Corwin.

One of the most useful sections was that on



Public Health and Hygiene. The subject of milk was presented in different phases by Dr. R. R. Ferguson, that of typhoid fever in Rockford by Professor Hanson, of Urbana, and that of Possible Functions of Municipal Laboratories by Professor Bartow, of the State Water Survey. The President of the State Board of Health, Dr. John A. Robison, spoke on the Future of Preventive Medicine.

In the House of Delegates considerable important business was transacted, which will appear in detail in the published minutes. A sentiment was apparent that the present Constitution of the Illinois State Medical Society is archaic. A committee was appointed to rewrite it and report at the next annual meeting. A committee was appointed to study the subject of indemnity in relation to the Medico-Legal Defense of the society and to report next year.

A resolution was unanimously passed condemning the American College of Surgeons. A resolution requesting the authorities of the American Medical Association to take the members into their confidence in regard to the celebrated Appellate Court decision, as to the legality of its corporate acts, was passed unanimously. Springfield was selected as the next place of meeting.

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#### ILLINOIS STATE SURGICAL SOCIETY.

The temporary organization of this society was perfected last January by a number of gentlemen who believed that the surgery of Illinois should be placed upon a higher and more scientific plane. With this idea in mind, it was thought the best way to bring this about was by a thorough organization of the surgeons throughout the state who are capable and who are doing good surgery in their respective localities.

The object and purpose of the organization is to promote the art of surgery and elevate it to a higher plane than it now enjoys, thus reacting as a lasting benefit to all the people of the state.

The citizen of the rural district, miles away from a city hospital, when he suffers from a strangulated hernia or an acute suppurative appendicitis, and the farmer's wife with a ruptured ectopic tube, need surgical attention and skill just as badly as the resident near a large city hospital, and they should have it. It is the pur-

pose of the Illinois State Surgical Society to let the people of the state know who can give them this service.

With these ideas in mind it is proposed to district the state and organize component societies similar to the organization of the State Medical Society, which societies will have monthly meetings for the discussion of surgical subjects.

Having these objects in mind, a meeting was called in Decatur, Tuesday, May 19, for the purpose of a permanent organization. About forty surgeons, from various parts of the state, responded to this call and listened to a paper by Dr. Robert H. Ferguson on "Some Psychic Phases Met With in Anesthesia." This paper will appear shortly in the ILLINOIS MEDICAL JOURNAL, and should be read by every physician who may be called upon to administer an anesthetic.

Following Dr. Ferguson's paper there were a number of short talks on organization and the need of a society such as proposed. A permanent organization was then effected.

Dr. J. W. Hamilton, Mount Vernon, president.

Dr. E. Windmueller, Woodstock, vice-president.

Dr. J. W. McDonald, Aurora, secretary.

Dr. J. Chase Stubbs, Chicago, treasurer.

Every member who attended the meeting was very enthusiastic and can be counted upon to work for its upbuilding. The society has already one component society, the Chicago Academy of Surgery, with one hundred and forty members, and bids fair to have at least twenty more component bodies at the next annual session.

It was decided at this meeting to have a scientific meeting next October, to be held at Springfield, on Wednesday of the State Fair week. Dr. Don Deal, of Springfield, is the local chairman of arrangements for this coming meeting.

Correspondence from surgeons throughout the state is invited by the officers of the society.

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#### STATE BOARD OF HEALTH ARRESTS ALLEGED FAKIR.

The State Board of Health has caused the arrest of a medical practitioner of Peoria, Illinois, representing himself to be Dr. F. C. Nichols, the charge being forgery. The "doctor" was taken into custody on May 28 after an exhaustive and

conclusive investigation, the charge of forgery being based upon provisions of Section 9 of the Illinois Medical Practice Act.

The Secretary of the Board, Dr. C. St. Clair Drake, has been collecting evidence in the case since early in May.

The only Dr. F. C. Nichols who ever had been a medical licentiate of Illinois was located in a Wisconsin city, a practitioner of large practice and good repute. Two other Nichols of the same graduating class were after some difficulty located, one in Oklahoma, the other in California.

The question then was, who is the F. C. Nichols in Peoria, the man who as recently as March 26, 1914, presented an Illinois certificate to the Peoria County Clerk for registration.

Correspondence with Dr. Forrest C. Nichols in Wisconsin established the fact that he had lost his Illinois certificate prior to his removal to Wisconsin.

Evidently, then, the Peoria Nichols was an impostor, using the lost or stolen certificate, the registration number being that of the certificate issued to the Wisconsin doctor.

The secretary requested Dr. Forrest C. Nichols to meet him in Peoria for the purpose of confronting the impostor. For valid reasons he could not come. It then became necessary to locate two Illinois physicians acquainted with Dr. Forrest C. Nichols and take them to Peoria. These two physicians established the fact that the Peoria man was not the Dr. F. C. Nichols who was a graduate of the Rush Medical College class of 1894, and therefore was not a medical licentiate of Illinois. By arrangement with State's Attorney McNemar of Peoria county, the Peoria impostor was then taken into custody, hearing being set for June 4, and bond fixed at \$1,000.

After arrest "Dr. Nichols" told about as weird a story as has come to the attention of the Illinois State Board of Health. In brief, he stated that he and his cousin, both of the name F. C. Nichols, attended Rush Medical College, each alternating in attendance at classes so that both obtained their medical education, presumably for one tuition fee. One received a diploma and then took out an Illinois license. The Peoria impostor claims the license was later given to him and that only recently he has seen fit to use it.

# REMARKS OF DOCTOR A. L. BRITTIN ON ASSUMING THE PRESIDENTIAL CHAIR AT DECATUR, MAY 21, 1914.

*To the House of Delegates and Members of the  
Illinois State Medical Society:  
Ladies and Gentlemen:*

Man yields to custom as he bows to Fate. Therefore, in accordance with established precedent, I shall attempt to indicate to you, in a degree at least, the policies which I shall endeavor to pursue during my term of office.

In assuming the office of president of the Illinois State Medical Society I assure you that it is with a full conception of the importance of the responsibilities of the position.

The accepted classification of the history of medicine is that of Renouard, in which the past is divided into the Age of Foundation, the Age of Transition, and the Age of Renovation. To which I would add, the Age of Rapid Progress.

The first is the primitive period, beginning with Myth and ending with the destruction of Troy, 1184 B. C.; second, the Age of Transition, ending A. D. 1400; the age of Renovation, comprising the 15th and 16th centuries, as well as the Reform Period, comprising the 17th, 18th and 19th centuries, and the Age of Rapid Progress of the twentieth century—the grandest epoch of the world's history.

Indeed fortunate are we who are privileged to live in this age, and to become the benefactors of the many victories of advancing science. It has been well said that Medicine finds a place adequate to its importance in the ever-expanding field of modern science. Without doubt, every age of the history of the world has brought with it its own problems and difficulties, and especially is this true of the medical profession at this time. For I am sure that at no time in its history has there been more pressing matters of economic concern presented to the practitioner of medicine than those which confront him at the present time. The crowded condition of the ranks is deplorable. The many inferior colleges which turn out illy-prepared men to gain a living by hook or crook is lamentable. But there is gratification in the fact that the low grade school is slowly, but surely, being weeded out. The time is upon us when the examining and licensing



boards must set the pace for the medical schools, instead of being dominated by them.

The forming of organizations to secure professional services at little or no cost to the recipient, which some physicians in an unguarded moment will bid for, bodes no good to the profession. This evil can only be met and overcome by the profession as a whole frowning on such practices, and insisting that the only true success in medical practice is that which comes from placing an honest value on honest service, and by "honest," I mean, let the physician strive to do his full duty to every patient who entrusts him with the most important duty that can devolve upon any man; namely, the care of health and life. Let us, as physicians, prove ourselves worthy of such trust. Such a course, and such a course only, will result in bringing about that relationship between the profession and the public, which will establish our calling in the place in public esteem to which it is entitled.

The abuse of charity in the way of free treatment, or treatment at nominal cost, at dispensaries and hospitals in large centers of population is a most important factor in the economic condition of the profession in such localities. Such abuses should be met and remedied by the efforts of organized medicine and in the application of the Golden Rule. Such problems are local in character and must be met and disposed of by those who are most concerned through the local county medical society.

Well may we feel a pardonable pride in consideration of the fact that with one exception, that of the New York State Medical Society, our state society is the largest State Medical Society in the Union, comprising, as it does, a little more than 6,000 members. And what is of still greater importance, Illinois stands first among the states in membership in the American Medical Association. What potentiality for good this implies—a democracy of 6,000 men engaged, every one of us, each in his particular way, in a common cause—that of relieving human suffering and prolonging human life. Whether it be in city or hamlet, village or town, in the palaces of the rich, or in the hovels of the poor, let us be worthy of the calling and forget differences and strife and be brethren all.

Inasmuch as the State Society is an aggregation of component societies, let us look well to

the affairs of such component societies, that our state organization may continue to be what it is in fact, a true professional democracy—truly an organization in which we meet on a level. The county medical society, as a unit of the State Society, shall receive the attention which its importance merits, and it shall be my purpose to awaken such interest in the societies that every man eligible in each jurisdiction, who is not already a member, may be brought into membership. This is not the duty of a few officers of the State Society alone, but it is the duty of every loyal member to constitute himself a committee of one, on membership, and see to it, personally, that this task is accomplished.

The recent graduate, the beginner in the professional life especially, should be looked after and brought into society membership at the outset of his career and led to identify himself with organized medicine, for the reason that it is at the beginning of professional life, when temptation is greatest to drift into quackery and dishonorable practices.

In so far as it is possible for me to do so, it is my purpose to visit the various component societies during my term of office, and to use my influence to increase the interest in their work and their enthusiasm in professional ideals; and I shall not consider my object fully accomplished until every eligible man in the state possible to reach is brought into the fold. It is not a question with me of geography or locality, nor is it a matter of mere county lines. If he is an ethical gentleman, engaged in the noblest calling to which a man may devote his life, we want him.

The profession and public of this state are to be congratulated on the recent completion of the organization of the Illinois State Board of Health. It is believed that a degree of harmony will exist between the Illinois State Medical Society and the Illinois State Board of Health which has not obtained in many years past, a consummation very much to be desired. Let us hope that mutual co-operation between these bodies will follow, for which we have waited so long and patiently.

I have stated that we are in the Age of Rapid Progress. This implies prosperity, peace, and congenial association, and I wish to be placed on record, during my administration, as feeling the spirit of the age. The signal honor which this

powerful organization has bestowed upon me will serve as a stimulus to my efforts to make good.

The pressing needs of the Illinois State Medical Society are: First, that the scientific program of the annual meeting should be divided as follows: A Section on Surgery, a Section on Medicine, a Section on Public Health and Hygiene, a Section on Eye, Ear, Nose and Throat. The sessions of each of these Sections should be held concurrently. For in no other way can the voluminous transactions of the Society be accomplished in the short space of time allotted to the annual meeting.

Second, the other great need of this society, which it is my desire to see accomplished during the year from May, 1914, to May, 1915, is the betterment of conditions in the smaller component societies of the state—those societies comprising a membership of less than twenty-five members. Of these, we have in Illinois about 45. In societies like these, it is difficult to maintain an interest and to secure that co-operation so necessary to efficient work. A special effort will be made by me to improve conditions along lines indicated in these smaller societies of the state. It shall be my purpose to conduct the affairs of this society in such a manner, during my administration, as to secure the best attainable financial success.

I pledge myself to give the Illinois State Medical Society an aggressive campaign along organization lines, as well as a strictly business one along financial lines. I earnestly ask the co-operation of the membership in my efforts to advance the interests of the society.

I thank you.

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#### JULIA DYER MERRILL, M. D.

Julia Dyer Merrill died May 18, 1914. Dr. Merrill came of American pioneer ancestry and was of the fifth generation in this country. She was born March 11, 1861, in Saco, Maine, where she received her common and high school education.

After teaching two years in her native town she entered the Nurses' Training School of New Haven. After graduation she took a post-graduate course in the New York Lying-in Hos-

pital, then becoming the superintendent of the North Adams Hospital.

Two years later she entered the University of Wooster at Cleveland and took her senior year in medicine at Northwestern University Women's Medical School.

Soon after graduation she became associated with Prof. A. C. Cotton as assistant, and became an instructor in Diseases of Children at Rush Medical College.

Dr. Merrill was one of the earlier women to become a member of the faculty of Rush Medical College. During her sixteen years' connection with that institution she was assistant professor of pediatrics, instructor in obstetrics, and instructor in physical diagnosis for the women students. For several years she had been assistant attending physician, Presbyterian Hospital; attending physician, Central Free Dispensary; attending physician, Tabitha, Mary Thompson, Chicago Maternity, and Maimonides Hospitals, Nathan Marks Jewish Orphanage, Lincoln Park Sanitarium, Jackson Park Sanitarium for Sick Children, Chicago Baby Tents, and other infant welfare organizations.

She was a fellow of the A. M. A., Illinois Medical Society, Chicago Medical Society, the Medical Women's Club, the Pediatric Association, the Association of American Teachers of Diseases of Children.

She was a member of the Chicago Medical Society Milk Commission, and to her untiring efforts the success of this undertaking is largely due.

In this large field of endeavor Dr. Merrill steadily gained for herself a reputation as a physician, a teacher, a loyal and sympathetic friend, a woman of the highest refinement and nobility of purpose.

In the out-patient department and in the wards she endeared herself to hundreds of students by her kindly methods and close scrutiny of the finer details of physical diagnosis. Her manner of teaching was quiet and deliberate, free from all display, but impressing the students with a sense of thoroughness and conviction.

Dr. Merrill was of a retiring disposition and the most of her contributions to medicine were given to her students rather than to the medical societies.

Dr. Merrill was a lover of nature, and when



possible to get away from the arduous duties of her practice and teaching, she most loved to get close to nature's heart in mountain, wood or stream.

A memorial exercise was held under the auspices of the Medical Women's Club and the Chicago Medical Society, where hundreds gathered to do her homage.

Representatives from the various organizations paid tribute to her integrity, skill and ability. The following resolutions were passed and will be put in permanent form:

WHEREAS, Death has removed from our midst our professional fellow and co-worker, Dr. Julia Dyer Merrill, who died May eighteenth, 1914; therefore be it

*Resolved*, That it is the sense of this meeting:

That the medical profession, the Chicago Medical Society, the Chicago Medical Women's Club, have lost an esteemed and highly honored, conscientious member, a loyal, self-sacrificing friend, a pure and worthy woman of highest refinement and nobility of purpose;

That medicine has lost a most efficient, careful, painstaking, indefatigable investigator;

That students have lost a teacher of exceptional ability whose kindly methods won their hearts and matured their judgment;

That, in our opinion, her life was sacrificed through a lavish expenditure of health and strength to alleviate the sufferings of the poor and lowly.

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—The Chicago Department of Health offers the following suggestions especially to summer resorters:

Polluted Water, Dirty Milk, the Typhoid Fly and the Malarial Mosquito constitute an unholy quartette awaiting the arrival of our citizens at many of the summer resorts of this country.

Look out for them; be prepared to spurn their advances.

There is greater danger of typhoid infection in the country districts and at summer resorts than there is in Chicago. Ordinarily the water supply is bad, the milk supply is not subjected to inspection and flies abound.

The chief menace is polluted water. Fortunately

Water ..... 1 quart

Chlorid of lime..... 1 teaspoonful

it is the easiest to overcome.

Resorters who derive their water supply from shallow dug wells or from a body of water into which sewage is discharged, and who drink it untreated, are in imminent danger of typhoid infection. As most resorts have a water supply of this character, and as relatively few resorters take the trouble to treat the water before using it, there is little wonder

that so many of our citizens return from their vacations ill with typhoid fever.

The tendency to have confidence in the purity of a water supply is far too often a misplaced confidence. It is much safer to view it with suspicion and treat it accordingly.

There are two simple methods by which water may be made safe for drinking purposes—(a) boiling, (b) hypochlorite treatment.

The purification of drinking water by hypochlorite treatment is very simple, inexpensive and highly efficient; it is a precautionary measure which should be adopted by every resorter and by every traveler whose duties carry him into "typhoid territory."

#### TO PURIFY DRINKING WATER

*(Paste this in your traveling bag)*

Get a few ounces of the best quality of chlorid of lime at any drug store and prepare the following

#### Stock Solution

Keep this solution in a tightly stoppered bottle; a mason jar or a thermos bottle being well adapted to the purposes, the latter especially when traveling.

Label the bottle "Stock Solution"; show formula as above and add the following directions.

To purify water for drinking purposes add one teaspoonful of the stock solution to two (2) gallons of water.

If the water is turbid strain it through fine muslin before adding any of the stock solution.

After adding stock solution allow the water prepared for drinking purposes to stand *uncovered* for twenty minutes before using. This allows the gases to escape and makes the water more palatable.

Then bottle the prepared water and keep on ice. Never put ice in the water.

Another source of water-borne infections, common to many resorts, is the bathing beach with its nearly sewer outfall. Be sure that the waters you swim in are not fouled with human wastes.

#### MILK DANGERS

Very little of the milk supply of summer resorts is subject to inspection and sanitary control; much of it is dirty and dangerous and should not be used until home-pasteurized.

You can eliminate the milk dangers by following these simple rules:

#### TO PURIFY MILK

Take a pail a little shorter than a milk bottle; place a saucer in bottom of pail and stand the bottle of milk (cap on the bottle) on the saucer.

Now pour hot water into the pail until one-half of the bottle is submerged, place the pail and contents on the stove and bring *water* to the boiling point. When water begins to boil immediately remove bottle of milk from pail and cool as rapidly as possible.

This pasteurizes the milk, kills the disease-producing germs in it.

Always keep the milk cool, in tightly covered and scrupulously clean receptacles.

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First aids to cleanliness:—

Disposition.  
Elbow grease.  
Soap.  
Shovel.  
Rake.  
Fire.

## POOR GAS IS PASSING AWAY



—From the Automobile.

Settling the Gasoline Question.

## Auto Sparks and Kicks

Don't ever fill the tank of a gasoline stove while it is burning. You are liable to spill some gasoline or the vapor may ignite and explode the tank or can.

Don't use gasoline for cleaning (or anything else) in a room where there is a candle, lamp or fire. A lighted cigar or pipe carried into a room in which gasoline is being used, will explode the air in it.

Don't ever fill the gasoline tank of an automobile while the engine is running. You are liable to spill some gasoline or the vapor may ignite and explode the tank.

Don't rub silk in dresses, ribbons or gloves together, which are being washed in gasoline. Gasoline vapor is frequently ignited and serious explosions caused by a spark of frictional electricity.

In case of fire, it is necessary above all things to "keep cool". Try not to get excited, and so waste precious moments in running about to no purpose. Act quickly, but keep your mind on what you are doing.

If it is only a little blaze, throw water on the thing that is burning; try to smother the flame with a heavy rug, or beat them with a wet broom. If you leave the house to summon help, be sure to close the door. Fresh air makes the flames burn faster and spread more rapidly. If the

fire is in one room, try to keep it there by closing the doors and windows. If it is in the closet, shut the door until you can get help. In this way you may save the whole house from burning.

If oil is burning, never pour on water as this only spreads the oil and makes matters worse. For an oil fire use flour, ashes, earth, sand, cinders, snow or anything to smother it.

### CAUTION.

Some peddlers go from house to house offering a "safety" or "magic powder" which they say will make a barrel of gasoline as safe as a barrel of vinegar. They are all frauds. Anything added to gasoline which would make it safe, would also make it useless.

Gasoline gives off a vapor all the time. When eleven-twelfths of a room is filled with air and one-twelfth of it is filled with gasoline vapor, there is greater danger than if the room were filled with gunpowder.

Remember that the three most dangerous things in the world for setting fires are kerosene, gasoline and matches.

To enter (if it must be) oil or gasoline tanks of any kind, empty or part empty: First of all ventilate the tank as much as possible. Get a strong rope and three or four reliable strong men. Tie the rope safely around the repairman's body. Hold tight to the rope, don't leave it fall in after him, tie it to a post. After he is in the tank a few minutes, don't ask him how he feels. Don't take his word, pull him out in the fresh air for five or ten minutes, then ask him how he feels.

An iron or steel gasoline tank, tank car or tank wagon, properly constructed and ventilated in open air, surrounded by fire, will not explode.

It is a common error for a thick heavy-appearing oil to be considered a better lubricant than a thin fluid oil, but when one remembers that sperm oil (but little thicker than water) is the best lubricant known, the error at once becomes apparent.

When a thick, heavy oil is necessary to run a machine, it is positive proof that the bearings are rough or not properly adjusted and in such cases graphite is almost indispensable, as it is far more economical to smooth up the bearing with graphite than to use the necessarily large quantity of heavy oil to keep them running cool.



## Society Proceedings

### COOK COUNTY.

#### CHICAGO MEDICAL SOCIETY.

*Regular Meeting, April 22, 1914.*

1. Some Results of Neglected Chronic Intestinal Stasis. Alfred C. Jordan, M. D., M. R. C. S., Physician to Guy's Hospital, London.

2. Cretinism. Prof. Hertogle, Antwerp.

3. Prof. H. Kuemmell, Hamburg.

*Regular Meeting, April 29, 1914.*

1. Technique and Clinical Results of Direct Transfusion of Blood. B. D. Lespinasse.

Discussion. H. W. Abelmänn.

2. Apprehension. Ralph C. Hamill.

3. Modern Methods of Diagnosis and Treatment of Stomach Lesions, with Demonstrations. Carl Beck.

Discussion. Carl Wagner.

4. Inflammatory Tumors. Alex. C. Wiener.

*Regular Meeting, May 6, 1914.*

1. Dementia Praecox and the Psychoses of Adolescence. Harriet C. B. Alexander.

Discussion. Bayard Holmes.

2. Competency and Incompetency. Mary E. Pogue. Discussion. Judge J. E. Owen and Mr. Lynden Evans.

3. The Thymus Gland in Childhood. Grace L. Meigs.

Discussion. Frank Churchill.

4. A Review of 5,600 Clinical Cases with Reference to Fibroids. Alice Conklin.

Discussion. Emil Ries.

5. The Work of Eugenic Educational Society. Anna Blount.

*Regular Meeting, May 13, 1914.*

This was a joint meeting between the Chicago Medical Society and the Chicago Ophthalmological Society. Subject: A Symposium on the Prevention of Blindness.

1. Conservation of Vision. Frank Allport.

2. Blindness Due to Ophthalmia Neonatorum; Its Cause and Prevention. Richard J. Tivnen.

3. The Cost of Blindness to the State. Thos. Woodruff.

4. What Can the State Do to Prevent Blindness? Willis O. Nance.

Discussion. A. L. Adams, Jacksonville, Ill.

After the program the society adjourned to the La Salle Theater, where it was entertained at a special performance of "The Escape," by Paul Armstrong, as guests of the Mutual Film Company.

*No Meeting May 20, 1914.*

No meeting was held on account of the meeting of the Illinois State Medical Society at Decatur, May 19-21.

### ENGLEWOOD BRANCH, CHICAGO MEDICAL SOCIETY.

The Englewood Branch met May 5 at the Englewood Hospital. President Dr. Julius H. Hess presided.

This was a clinical meeting and proved to be one of the most interesting and instructive of the year. Many interesting and valuable cases were shown, among which may be mentioned the following:

Dr. C. Hubart Lovewell: A case of arthritis deformans which was treated very successfully by finding the focus of infection and causing its removal.

Dr. John B. Haeblerlin showed three cases of ulcers of the pylorus which he had operated on successfully. He also showed three cases of thyrotoxicosis in which he had done thyroidectomies with good results.

Dr. A. J. Graham showed some interesting fracture cases.

Dr. Julius H. Hess presented three most interesting cases in children: A case of sarcoma of the lung in a girl 12 years old, a case of Banti's disease (splenic anemia) in a girl 11 years old, and a case of lues in a girl 9 years old, showing greatly enlarged liver and spleen.

Dr. Carl Langer showed a case of carcinoma of the tongue in which he removed half of the tongue. Later recurrence in the muscles of the neck (but not in the tongue), which necessitated the removal of the sternocleido-mastoid muscle on one side. The patient uses his neck extremely well.

Dr. M. T. Naughton: A case of ulcer of the stomach; operated on with good results.

Dr. J. G. Campbell: A case of puerpura hemorrhagica, which was all but dead when a transfusion was done. The child made a complete recovery.

Dr. R. M. Parker showed a specimen of an ovary and part of the omentum removed from a femoral hernia.

Dr. J. J. Moorhead demonstrated a new method of blood counting.

The discussions that followed were animated and many good points were brought out.

At this meeting the following officers were nominated for the coming year.: President, Joseph Sherlaw; vice-president, G. Henry Mundt; secretary-treasurer, Arthur G. Bosler; councilor to Chicago Medical Society, H. H. Mather; alternate councilor to Chicago Medical Society, R. M. Parker; local councilors, J. A. Waska and F. S. Tufts.

ARTHUR G. BOSLER, Secretary.

### FULTON COUNTY.

The sixty-seventh meeting of the Fulton County Medical Society met in the Y. M. C. A. building in Canton May 5, 1914, and was called to order at 2 o'clock p. m. by President Beatty.

Minutes of the December meeting were read and approved.

Dr. A. C. Cluts was elected alternate to the State meeting to be held in Decatur May 19 to 21.

Drs. W. H. Betts of Canton, Floyd A. Smith of Canton and W. D. Flack of Farmington, were duly elected to membership.

Letter from State President Whalen relative to the Harrison Anti-Narcotic Bill, now pending in the United States Senate was read and freely discussed. Each member was urged to write to Senators asking their opposition to the Nelson amendments to the bill.

The Executive Committee was granted more time to report on the American College of Surgeons.

The Secretary was on motion instructed to prepare and transmit a copy of a resolution to the *Canton Ledger* commending that paper for a newly adopted policy of refusing medical quack advertisements, including patent medicine.

In the absence of Dr. E. P. Coleman his paper was read by Dr. J. E. Coleman.

Dr. Adams and Dr. Howard each presented papers. General discussion followed.

Many expressed themselves as considering the meeting very successful.

Those present were: Beatty, Cluts, Chapin, Simons, W. H. Betts, Snively, Connelly, Parks, Stoops, W. D. Nelson, Oren, Gray, F. A. Smith, Shallenberger, Howard, Adams, T. H. Regan, Ray, J. C. Coleman, Scholes and Turner. Total 21

D. S. RAY, Sec.

#### HENDERSON COUNTY.

The Henderson County Medical Society met at Stronghurst, Tuesday, May 5, 1914.

Members present, Drs. I. F. Harter, H. L. Marshall, E. E. Bond, A. E. Lauver and J. P. Riggs. Visitors present, Drs. Ben B. Beard, C. A. Finley, G. S. Bower and Earley of Galesburg, Ill.

Dr. Finley read a paper on the subject of "Haemorrhoids" that was interesting and instructive. Dr. Beard read a paper on "Carcinoma of the Stomach, with some New Pointers," and Dr. Bower gave us a talk on the subject of "Blood Pressure." The papers were discussed by all present.

After the reading of the papers we proceeded to business and elected the following officers whose time expires the first Tuesday in December next.

Hugh L. Marshall, president; I. E. Harter, vice-president; J. P. Riggs, secretary-treasurer; A. E. Lauver, censor; J. P. Riggs, delegate two years; Ewin E. Bond, alternate two years; I. F. Carter of Stronghurst, W. J. Emerson of Lomax, B. L. Ditte of Gladstone, committee on public health; C. J. Eads of Oquawka, H. V. Prescott of Dallas City and J. P. Riggs of Media, committee on Red Cross; J. P. Riggs, committee on medical defense.

HUGH L. MARSHALL, Pres.  
J. P. RIGGS, Sec.-Treas.

#### MORGAN COUNTY.

A regular meeting was held at the usual place March 12, 1914.

Present: Drs. Pitner, Norris, Pontius, Gregory, Hardesty, Center, Woltman, Lowe, McLin, Frank, Foley, Crouch, Ogram Reid, Black, Stacy, Cole.

After a communication from Dr. J. A. Capps of Chicago regarding work done by him and Dr. Davis on our local milk supply, was read, a special meeting was scheduled for March 28, to hear their report. Dr. G. W. Bradley of Waverly has retired from active membership and was placed on the honorary list.

Dr. Chas. D. Center of Quincy, councilor for the Sixth District, was present and spoke in a pleasing vein of the work of our society and of the proposed change in the state society constitution and by-laws.

Drs. Lowe and McLin explained in detail the careful physical and mental examinations now given admissions to the State Hospitals. By this means alone can the proper diagnosis be made, and consequently the proper treatment be instituted. As much laboratory work as possible is done here, but several are sent to Kankakee to Dr. Singer.

A therapeutic bath establishment is in full operation at the hospital now.

Dr. Black presented the problem of caring for the sick in the general hospital. He voiced again the statement made by Dr. Hektoen that some day every seriously sick person would be cared for in hospitals; as there better facilities for observation, diagnosis, and treatment are to be had. The hospital movement is the movement in the community which deserves the support of all classes. The general hospital should be equipped to take care of all varieties of cases that apply for admission.

From the efficiency standpoint the general hospital is the only nonendowed place where apparatus enough to properly take care of the sick can be afforded.

Nurses in training in general hospitals have a better preparations because of contact with all varieties of patients.

Dr. Crouch said the physician's most valuable tool was the general hospital. He said that the general trend was to have medical men rather than laymen as superintendents. He spoke of the factors of better control, in isolating, diet, visitors, etc., obtained in hospital care rather than at home.

#### *Special Meeting March 28, 1914.*

A special meeting was held to hear Dr. Capps' and Dr. Davis' report. Previous to Dr. Capps' address, Drs. Josephine Milligan, Grace Dewey, and Virginia Dinsmore, the milk committee of the Society, reported their efforts to get the dairy men and the creamery to better local conditions. The Creamery and a few dairymen had cooperated. Dr. Capps, being introduced, reported as follows:

"In the latter part of January we were requested to undertake an investigation of the epidemic of sore



throat in Jacksonville, with the hope that a definite cause could be found.

"Two physicians were detailed to make a house to house canvass and ascertain the prevalence of sore throat, the dates of onset, and the milk and water supply. In all, over 7,400 individuals were reported upon, including residents of three state and one private institution. There were found 334 cases of septic sore throat.

"We obtained the services of Kruger, one of the best dairy experts of the Chicago health department, to make a study of the dairy situation, with particular reference to the condition of the cows and the existence of caked bag or garget. From all cows that showed any suspicion of udder disease, we obtained samples of milk and forwarded the same for examination to the Pathological Laboratory of the University of Illinois in Chicago. To this laboratory cultures obtained from cases of sore throat also were sent.

"As a result of these investigations, it was found that two cows, suffering from caked bag or garget, were giving milk filled with pus cells and streptococci; that the milk of these infected cows was sold to a certain dairy, which will be designated as dairy X; furthermore it was found that the majority of cases of sore throat were using milk or cream from dairy X. We believe, therefore, that these cows were responsible in large part for the epidemic of sore throat.

"For the betterment of the milk supply of Jacksonville it is respectfully suggested by ourselves and Mr. Kruger that an ordinance be passed embodying the following essentials:

"1. That the cows supplying the milk be clean and healthy.

"2. That the cow stables be well lighted, drained and ventilated.

"3. That the milk bottles be cleansed in hot water after each using.

"4. That the bottling of milk or cream on the street or in the delivery wagon be prohibited.

"5. That a sanitary milk room be maintained for bottling the milk.

"6. That milk bottles be not removed from places where communicable disease exists, until the premises have been fumigated and bottles sterilized.

"7. That the use of preservatives be prohibited.

"8. That adulteration and dilution be prohibited.

"9. That pasteurization be inspected to insure that the heating is carried out efficiently.

#### *Pasteurization Essential*

"We believe that pasteurization is the only way to make milk absolutely safe and that every effort by the dairy companies to develop their pasteurizing facilities should be encouraged. Central pasteurizing plants with modern machinery are essential to the public health and the public should give its active support to such enterprises, insisting on proper inspection."

After Dr. Capps had finished an interesting discussion followed.

Doctors present were: Woltman, Norris, Wolfe, Hairgrove, Stacy, Cole, Frank, Adams, Milligan, Crouch, Foley, Black, Capps, Ogram, Baker, Dewey, Gregory, Bradley, Bowe and Babcock.

The meeting was preceded by an informal dinner at the Dunlap House to meet Dr. Capps.

At meeting held April 9, a Model Ordinance following the above lines was presented.

#### *Regular Meeting, May 14, 1914.*

The meeting of May 14 was held at Passavant Memorial Hospital, Jacksonville, with the following in attendance: George Burns, Whitehall; R. E. Trapp, George N. Kreider, Springfield; E. Mammen, Bloomington; F. M. Roberts, Chapin; S. C. Stremmel, Macomb; J. W. Botkin, R. U. Hawthorne, Roodhouse; J. M. Elder, F. H. Metcalf, Franklin; J. W. Eckman, Wm. O'Reilly, James Miner, Winchester; W. K. Dyer, Lynnvile; H. E. Wilkins, Petersburg; H. C. Fortune, Literberry; J. G. Franken, Chandlerville; C. M. Hubbard, W. R. Blackburn, A. R. Lyles, Virginia; A. R. Lightle, Tallula; L. J. Harvey, Griggsville; Robert Hanna, C. U. Collins; Peoria; E. A. Foley, C. R. Lowe, W. P. Duncan, J. U. Day, A. L. Adams, H. C. Holtman, C. E. Black, A. R. Gregory, Jr., C. E. Cole, W. L. Frank, Edward Bowe, Josephine Milligan, F. A. Norris, D. W. Reid, G. R. Bradley, Grace Dewey, E. L. Crouch, T. G. McLin, T. J. Pitner, A. J. Ogram and George Stacy of Jacksonville.

During the latter part of the morning clinical cases were shown by Drs. Crouch, Adams and Black.

Dr. Crouch presented:

#### *POSSIBLY EARLY TETANUS.*

JOHN G. No. 26606. Aged 58, laborer, single, parents dead, family history negative as far as could be obtained. Uses alcoholics to excess periodically, smokes and chews. Uses coffee very freely. Had used no alcoholics for about ten days previous to injury. Patient says he never had convulsions or nervous trouble previous to the present attack. Patient seems to be of a rather low mentality.

On April 23, 1914, while unloading cinders from a coal car train backed into car, the jar threw patient off the car to the ground striking on occiput (right) resulting in three deep lacerations extending to pericranium and bone on right side of occiput, and one laceration behind the right ear.

About 5 p. m., about three hours after injury, patient was admitted to the hospital in a dazed state. Wounds were cleansed and drained, sutured and dressed. Patient was very restless and complained of a great deal of pain in head, was nauseated and vomited. Temperature was 99, pulse 78, respiration 20.

The following day, April 24, at 8 p. m. temperature was 100, pulse 66, respiration 22. He was restless during the night, complaining of severe pain in head particularly in region of wound. Was more or less confused.

At about 2 a. m. April 25, 18 hours after injury, began perspiring freely and later was observed to be working jaws spasmodically and in a short time limbs were flexed and rigid, mouth was tightly closed, head was drawn back.

His nurse reported that at the beginning of the seizure there was a cracking noise as if bones were breaking. Patient appeared to be conscious and as soon as paroxysm passed off, which lasted but a few minutes, patient complained of severe pain in right shoulder and arm, and he could not move the right arm; also complained of stiffness of neck and worked lower jaw spasmodically; was very restless, complained of a great pain in right shoulder and arm.

In about three hours had a similar paroxysm lasting a few minutes after which the patient slept for a short time.

At 6 a. m. temperature was 99, pulse 108, respiration 28.

At about 6:30 a. m. was given 5,000 units of anti-tetanic serum. Right shoulder was found to be dislocated which probably was due to muscular contractions during the first paroxysm. The dislocation was reduced by the Kocher method and the arm and shoulder bandaged. The muscles of the neck and jaw were rigid and the deep reflexes were very much exaggerated.

At 9 a. m. was given 3,000 units of anti-tetanic serum and at 11 a. m. temperature reached 101.2, pulse 84, respiration 24, after which the temperature subsided and at 4 p. m. was given again 5,000 units of anti-tetanic serum. The leucocyte count was 14,500. Examination of urine negative.

There was marked tenderness over the nerve trunks in the extremities, particularly the lower extremities below the knees.

On the following day temperature dropped to 98.8, pulse 72, respiration 20, and the temperature did not again go above 99.

There was marked neuritis in the right musculo-spiral nerve and partial paralysis of the muscles supplied by this nerve. For several days there was a marked Kernig present which has gradually subsided together with the rigidity of the muscles and patient appears to be gradually recovering.

Dr. Adams exhibited a girl who had just undergone a bilateral tonsillectomy to show a history all too common. She had been a sufferer from acute rheumatism, endocarditis, has a mitral regurgitation murmur, has had chronic recurring tonsilitis and deafness. There are a few so-called operators yet who do only tonsillotomies, but fortunately these are becoming more rare.

Dr. Black had assembled three femoral aneurysms seen during the year. All were sequellae of gun-shot wounds. None have been operated on as yet. Two were males. These cases will be reported in detail later.

After the morning clinics the hospital management, acting through the superintendent, Miss Ida B. Venner, R. N., entertained the visiting Doctors at a substan-

tial luncheon. Following the luncheon a number of impromptu talks were made for the good of the order. After which Dr. A. F. Norris reported a case of complete diaphragmatic hernia of the stomach which he had successfully operated upon.

#### COMPLETE DIAPHRAGMATIC HERNIA OF THE STOMACH.

The patient, Mr. P., aged 55 years, gave a history of an injury to the right side of the chest 46 years ago. At this time he was caught between two cars and the chest crushed. He made a good recovery and was in good health up to seven years ago when he began to have attacks of abdominal pain and soreness in the cardiac end of the stomach. This came on two or three hours after taking food and the stomach was generally emptied by emesis which gave relief. These attacks came rarely until about three years ago and since then two or three a week with gradual loss of weight and emaciation. For the last year he has lived on liquid diet most of the time.

Examination:—The patient is very much emaciated; had lost over 50 pounds in weight in past year. General physical examination revealed very little. On the right side in anterior axillary lie a large cavity at site of old injury. About 5 inches of the 6th, 7th and 8th ribs were missing, with marked depression at this point. The lung findings were normal. There was some tenderness over the cardiac end of the stomach. The patient was advised to submit to an exploratory laparotomy which was made.

Operation:—The usual incision was made through the left rectus as in gastro-enterostomy. On exploration the upper abdomen was found empty, the transverse colon located high up under the diaphragm. The stomach was located by following the duodenum, through the opening in the right dome of the diaphragm. It was easily withdrawn. The stomach measured about 18 inches, the walls thickened and pylorus greatly dilated, would admit four fingers, there were no adhesions about the stomach. The pylorus opening entered the opening first and passed to the left, the body of the stomach going into the thorax with the esophageal opening to the right completely inverting the stomach, the lesser curvature being at the opening in the diaphragm. The stomach was replaced in the abdomen, a posterior gastro-enterostomy performed close to the cardiac end as the stomach was so large that it folded up and could not empty properly. To be sure of keeping the organ in good position the cardia was sutured to the peritoneum at the upper part of the wound, the pylorus was fixed in the same way in as nearly its normal position as possible. This seemed the only way to remedy the condition as the opening in the diaphragm was very large and it was impossible to suture the stomach through margin of opening. The patient made an uneventful recovery, leaving the hospital in three weeks following the operation.



A letter May 11 reported his condition most encouraging, he had gained 19 pounds in weight and is eating three meals a day this first month since leaving the hospital. No vomiting or distress since the operation.

As far as I have been able to learn from literature and references at my disposal there is only one other case reported operated on and relieved.

Dr. Grace Dewey exhibited a number of x-ray pictures. The Society went on record as at the present time favoring Springfield as the permanent meeting place of the State Society. With a vote of thanks to the hospital and to the clinicians the society adjourned.

GEORGE STACY, M. D., Secretary.

### OGLE COUNTY.

The Ogle County Medical Society met in regular session at the Family Theater, Oregon, April 15, at 1:30 p. m. President Stevens not being present Vice-President Griffin called the meeting to order. Minutes of previous meeting read and approved. Roll-call found the following members present: Drs. Beveridge, Bowerman, Brigham, Beard, Beebe, Gardiner, Griffin, Johnson, Kretsinger, Hanes, Price, Rae, Roe, Hamnett and Sheets; visitors Drs. Henry F. Lewis, Chicago; B. A. Cottlow, Oregon; Inks, Polo; Johns, Oregon; E. S. Murphy, Dixon; C. W. McPherson, Hazelhurst; J. H. Stealy, Freeport, and Karl F. Snyder, Freeport.

Drs. J. A. Gardiner, Mt. Morris; F. E. Inks, Polo, and S. C. Thompson, Byron, were elected members of the society.

Program: Dr. Henry F. Lewis, Professor of Gynecology, Chicago, read an excellent paper on "Fibro-Myoma of Uterus." This paper was ably discussed by Drs. Beveridge, Stealy, Snyder, Murphy and McPherson.

Dr. J. H. Stealy, Freeport, read an instructive paper illustrated with lantern slides on "Prostatotomy." An excellent discussion on this important paper was given by Drs. Beveridge, Bowerman, Lewis, Murphy and Snyder.

Dr. Karl Snyder, member of the Stephenson County Medical Society, extended a cordial invitation to all members present to visit their meeting to be held the following week at Freeport.

A rising vote of thanks was given Drs. Lewis and Stealy for their excellent papers. Meeting then adjourned to meet at the public library in Polo on the third Wednesday in July, 1914.

DR. J. T. KRETSINGER, Secy.

### WINNEBAGO COUNTY.

The Winnebago County Medical Society met in Dr. Ackemann's office May 12, 1914, Dr. E. E. Ochsner in the chair. Members present, 29; visitors, 8.

Dr. M. S. Guyer, professor of zoology at the University of Wisconsin, gave an address on "What Shall We Do with Our Defectives?" He pointed out the prevalence of insanity, its yearly increase in all the states, and the enormous expense in running our asylums. As most important factors in the gradual eradication of this condition, Dr. Guyer offered the following remedies: (1) Stricter laws of immigration; (2) Sterilization; (3) Segregation of defectives, and (4) Education of the public—especially in marriage. Dr. Guyer's talk was very instructive, interesting and something new to the members. He illustrated the salient points by use of lantern slides. General discussion followed. The society voted Dr. Guyer a rising vote of thanks.

A letter received by the secretary of the society from Major Patterson, Medical Corps, U. S. Army, instructed the society to form a red-cross committee of five members, the president and secretary to be two of the members, and the other three to be appointed by the chair. Drs. Franklin, Lichty and Lofgren were appointed.

Society adjourned.

DR. C. M. RANSEEN, Secy.

### Personals

Dr. and Mrs. Arthur W. Stillians sailed for Europe April 25.

Dr. Ernest W. Pothoff, Oak Park, sailed for Europe May 2.

Dr. George Pennington, West Alton, was thrown from a wagon and seriously injured April 23.

Dr. James A. Rutledge, Woodmen, Colo., formerly of Elgin, has been elected state consul for the Colorado Woodmen of America.

Dr. John C. Griffith has succeeded Dr. George S. Duntly as local surgeon of the Toledo, Peoria and Western Railroad at Bushnell.

Dr. Otto L. Schmidt was re-elected president of the Illinois State Historical Society at its meeting in Springfield, May 8.

Dr. A. M. Shaw has been appointed health commissioner of Clearing, and Dr. Orlando F. Scott, health commissioner of the villages of Summit, Argo, Justice and Gary.

Dr. Arthur Parsons Geneseo, suffered the fracture of several ribs and severe cuts and bruises by the overturning of his automobile, April 21.

Dr. Major H. Worthington has returned to Chicago after an absence of several months and has resumed practice at Marshall Field building, 22 East Washington street.

Dr. J. W. MacDonald, of Aurora, is chief surgeon of the A. E. & C. Railroad Co. Dr. J. R. Tobin, of Elgin, was recently appointed local surgeon—not chief surgeon, as announced in the May JOURNAL.

Dr. Lewis C. Taylor has been elected president and a director of the Springfield Anti-Tuberculosis Association, Dr. George F. Stericker a member of the executive committee, and Dr. George Thomas Palmer, medical director.

Dr. Robert H. Buck, of Chicago, sailed for Europe June 27, to attend the Clinical Congress of Surgeons in London and visit other medical centers. Mrs. Buck and Mrs. E. M. Erickson, R. N., of the Visiting Nurse Association, accompanied him.

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### Removals

Dr. Joseph T. Woof removed his residence to his office, 5644 West Madison street, Chicago.

Dr. Julius Grinker has removed to 25 East Washington street, Chicago.

Dr. C. F. Yerger announces his removal to 2329 South Fifty-second avenue, Morton Park, Ill.

Dr. John P. Grimes, formerly of Chicago, is now located in La Salle, Illinois, with offices in the La Salle Theater building.

Drs. S. R. Hurlbut, Lawrence L. Iseman, Sydney Kuh and Cornelius A. Leenheer have removed to the Michigan Boulevard building, 30 North Michigan boulevard.

Dr. Henry P. Bagley announces his return from post-graduate work at Harvard. He discontinued the office at 736 West Madison street and will have hours at 31 North State street.

Dr. O. J. Nothenberg, of 5614 North Clark street, Chicago, has opened an office at 32 North State street. Hours, 3-5 Tuesday, Wednesday and Friday.

Drs. Richard Dewey and Herbert W. Powers announce the removal of the Chicago office of the Milwaukee Sanitarium to 25 East Washington street. Hours, 1 to 3, Wednesday only.

Drs. A. M. Corwin, George J. Dennis, John R. Harger, Oliver S. Ormsby, Robert Von Der Heydt, L. Harrison Mettler and Charles J. Whalen have removed to offices in the new Marshall Field Annex building, at 25 East Washington street.

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### News Notes

—The American Medical Association meets June 22-26, 1914, in Atlantic City.

—The Illinois Valley Clinical Laboratory has been established at Ottawa under the supervision of Dr. Roswell T. Pettit, with J. B. Gookin, formerly of Chicago, as chemist and bacteriologist.

—The forcible detention and treatment of ignorant victims of tuberculosis was advocated at the public conference held April 16 at the City Club, under the auspices of the Chicago Tuberculosis Institute.

—The Municipal psychopathologic laboratory of Chicago was opened May 1, on the eleventh floor of the City Hall. Dr. William J. Hickson, Vineland, N. J., is head of the work, and Miss Mary M. Campbell has accepted the position of assistant director.

—At a meeting of the board of directors of Hillsboro Hospital Association, April 20, Drs. George A. Clotfelter, Zeb V. Kimball and Homer A. Seymour were elected members of the building committee for the new hospital, which is to be ready for occupancy early in November.

—Charles Walgren, a native of Sweden, who was taken to the Cook County Hospital in February, suffering from leprosy, was returned to Sweden, May 6. That every precaution might be taken, he was sent to New York in a special car, and was given a special compartment on the steamer.

—The Howard Taylor Ricketts prize for undergraduate research work, awarded May 3 each year to a student of Rush Medical College, as a memorial of the death of Howard Taylor Ricketts while engaged in the investigation of typhus fever in Mexico City, has this year been awarded to Julian Herman Lewis.

—The *Messenger* of the Clinton County Medical Society states the case for attending the meetings as follows: "Verily man is nothing but a



wart on the nose of nature; a bunion on the toe of time; a freckle on the face of the universe; unless he is a member and attends regularly the County Medical Society.

—Superintendent H. J. Gahagan of the Elgin State Hospital has appointed the following complementary medical staff: Eye, ear, nose and throat, Dr. John R. Tobin; gynecology, Dr. Frederick C. Schurmeier; internal medicine, Dr. John F. Bell; dermatology, Dr. Edward H. Abbott, and pathology and bacteriology, Dr. Samuel L. Gabby.

—Official word has been received that at a recent meeting the faculty of Rush Medical College determined to limit the enrollment of students hereafter to 100 students each for the first and second year classes and 120 students each for the third and fourth year classes. This action has been deemed necessary since the college feels that it can provide the best medical training for classes of that size.

—The index which appears in this number of the JOURNAL follows the plan of the last index, which gave good satisfaction as a practical help in locating articles. To include all facts and names of men mentioned in any way in the proceedings would add very greatly to the size of the index without increasing its value materially, as such facts can be located quickly in the proceedings.

—At its annual meeting, May 11, the Chicago Pathological Society elected the following officers: President, Dr. Ernest E. Irons; vice-president, Dr. L. E. Day; secretary, George H. Weaver; treasurer, Alexander A. Goldsmith; censors, Drs. Evarts A. Graham, Walter W. Hamburger and Frederick R. Zeit; and publication committee, Drs. Ludwig Hecktoen, H. Gideon Wells and Frederick R. Zeit.

—The Illinois Central Railroad announces that ground has been purchased on Stony Island avenue, facing Jackson Park, for a hospital to be established by the Illinois Central Railroad, the erection and equipment of which will cost more than \$400,000. The building is to be six stories high and will be primarily for the benefit of employes of the railroad and passengers injured on the railroad.

—We have heard that men are unsatisfactory patients when sick, which may account for the

following from the *News-Letter* of the Englewood Branch: Mrs. Smith was telling Mrs. Jones that she was going to call the doctor to see her husband, who was sick. Mrs. Jones said, "Don't call him, he's a child specialist." "That's all right," said Mrs. Smith, "he'll have a baby for a patient, all right." (Presumably the doctor referred to is Dr. Julius H. Hess, president of Englewood Branch.)

—The *Bulletin* of the Montgomery County Medical Society prints a letter from an ex-member roasting the society for its stand against newspaper advertising by the members. To quote the letter in part: "It's the silly and shamming policy of pretending you don't care for advertising when all the time you well know you are simply *dying* for it; why not come right out and state in the paper just what you want and tell the truth? etc." What color do they dye it, friend? Can it be green for envy?

—The Memorial Institute for Infectious Diseases has moved into its new building at 629 South Wood street, adjoining the Annie W. Durand Hospital, which is conducted by the institute. The new building is equipped with laboratories for the individual workers, a department for the serum division and preparation and animal rooms which are unique in construction and arrangement. The *Journal of Infectious Diseases* will also use the new building as headquarters and all communications should be sent to the new address.

—Dr. Jacob Frank, surgeon-general of Illinois, was guest of honor at a banquet given April 28 by his friends of the medical profession of Chicago, and the Medical Reserve Corps. U. S. Army and Illinois National Guard. Dr. Charles P. Caldwell, president of the Chicago Medical Society, was toastmaster, and responses were made to toasts by Drs. A. Augustus O'Neill, Patrick J. H. Farrell, John B. Murphy, Arthur M. Corwin and Noble M. Eberhart. Dr. Martin M. Ritter, in behalf of those present, presented Dr. Frank with a sabre.

—The *Madison County Doctor* reprints the chapter of "Beside the Bonnie Briar Bush," describing the death of old Doctor MacLure. It is surely good for all of us to pause now and then in the swift rush of modern professional life and ponder the exquisite sentiment that attached it-

self to the good old-fashioned family doctor. It will require a different language to embalm the memory of our present activities. It may be the cinematograph film. Who has not seen the doctor as the leading "Movie" feature? Can you estimate how much we lose by comparison?

—At the meeting of the Illinois State Medical Society Dr. Albert L. Brittin succeeded Dr. Whalen as president; Dr. Charles W. Lillie, of East St. Louis, was elected president for 1915-1916; Drs. Otto T. Freer, of Chicago, and Everett J. Brown, of Decatur, were elected vice-presidents; Dr. W. H. Gilmore was reelected secretary, and Dr. A. J. Markley was reelected treasurer; Dr. Emil Windmueller, Woodstock, was elected councilor for the first district and Dr. Edwin S. Gillespie, Winona, for the second district; Dr. E. B. Cooley was reelected for the eighth district.

—A letter advocating "Reciprocity" between the Illinois State Medical Society and the advertisers in the JOURNAL, enclosing blotters, sent to all the advertisers and asking for suggestions, drew several interesting answers. Among them was the following from Mead, Johnson & Co., manufacturing chemists, Jersey City, N. J.:

"We have yours of the 14th, with samples of blotters. They seem to be admirably worded. Writer feels if he could do as well, he would then perhaps be in a position to advise you how to better them, but, alas, he feels he could not write as good a blotter for himself. He hopes the physicians who receive it will pay more attention to it than they do, as a rule, to our literary efforts."

—The annual Alumni meeting of Bennett Medical College will be held June 16th to 19th. In connection therewith will be three days of Medical and Surgical clinics held by the members of the Alumni Association both from Chicago and other cities. These clinics will be held at the Jefferson Park Hospital, Monroe and Loomis streets. Arrangements have also been perfected for attendance at clinics held at the various hospitals of the city. There will be a banquet on the evening of the 18th on the roof garden of the City Hall Square Building, the annual election of officers on the morning of the 19th, and participation in the graduating exercises of the College to be held at Orchestra Hall in connection with other departments of the

Loyola University, on the evening of June 22nd.

—North Shore Branch's "Great Night" materialized June 1 in the Red Room at the Hotel La Salle and it was a real gala night. The reception held by President Martin M. Ritter and his charming wife and the committee men preceding the banquet placed the members and their wives and sweethearts in a social mood which added greatly to the enjoyment of the elaborate menu, enriched by a cabaret "de luxe," including some famous entertainers. The large ballroom was divided by palms, with the tables arranged at the west end, leaving ample room for the dance at the east end which followed the banquet.

The orchestra discoursed sweet music, which enticed many to tango or waltz according to the "vintage" of their dancing days.

The evening was one long to be remembered by members of the society and reflects the greatest credit on the energetic president so ably assisted by the committee.

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## Public Health

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—The health committee of the Chicago City Council has voted to hold a public hearing on the recommendations of the vice commission. It is the first time official Chicago has taken up the social evil as a health problem.

—It is likely that pollution of the water supply of Chicago and other lake cities by the sewage discharged from vessels will be prohibited in the near future. A bill, approved by the United States Public Health Service, was introduced in the House of Representatives, May 19, by Representative Mann of Illinois.

—The county board has refused to pay for \$8,400 worth of nursing service supplied this year to the sick and injured in the county hospital. The service was supplied by the Illinois Training School. The board has renewed its contract with the school. A plan will be devised for financing the nursing until the county commissioners decide to pay, and an appeal to the public for subscriptions is probable. The contract awarded provides the school shall have \$45.85 a nurse actually employed.

—In his biennial report Mr. Peter M. Hoffmann, coroner of Cook County, calls attention



to the frequency of deaths from poison due to grasping a wrong bottle. In 1913 there were at least 148 deaths from this cause. The coroner points out the increase in poisoning in the following tabulation:

	1910	1911	1912	1913
Accidental .....	127	103	110	148
Suicidal .....	116	115	153	163
Undetermined .....	65	66	61	64
Water heaters .....	4	7	10	1
Total .....	312	291	334	376

### Marriage

PENUEL HARROD, M. D., to Miss Linnie Robinson, both of Avon, Ill., at Peoria, Ill., April 26.

METELLUS ROWAN BARCLAY, M. D., to Miss Elsie Genevieve Kohlasch, both of Chicago, recently.

WILLARD ROBERT VAUGHAN, M. D., Plainwell, Mich., to Miss Agnes M. Steinmayer of La Salle, Ill., May 2.

FRANK BURTON VON WORMER, M. D., Alton, Ill., to Miss Stella Cobb of River Forest, Ill., April 22.

JOHN STEELE SWEENEY, M. D., Chicago, to Miss Ruth Miller of Findlay, Ohio, in New York City, May 4.

ALEXANDER SANDS ROCHESTER, M. D., Chicago, to Miss Harriet Morris Carnahan of Columbus, Ohio, April 18.

CHAUNCEY WYCKOFF HOWELL, M. D., Littleton, Ill., to Miss Mary Augusta Griswold of Princeton, Ill., April 29.

### Deaths

JOHN WARREN WALKER, M. D. Rush Medical College, 1884; died at his home in Chicago, April 16.

NELSON LOAR, M. D. Physio-Medical College, Cincinnati, 1867; died at his home in Bloomington, Ill., April 29, from senile debility, aged 74.

HIRAM E. JOHNSON, M. D. Castleton (Vt.) Medical College, 1857; founder of Weston, Ill.; died at his home in Fairbury, Ill., April 6, aged 79.

JOHN DAVID STOOKEY, M. D. Washington University, St. Louis, 1910; died at his home in

Smithton, Ill., April 8, from malignant disease, aged 26.

DANIEL EGAN, M. D. Rush Medical College, 1881; a Fellow of the American Medical Association; died at his home in Chicago, May 5, from disease of the stomach, aged 55.

WILLIAM BIKE STIVER, M. D. Rush Medical College, 1878; a member of the Illinois State Medical Society; of Freeport, Ill.; died in that city, April 18, from cerebral hemorrhage, aged 63.

HENRY G. GABEL, M. D. Eclectic Medical Institute, Cincinnati, 1875; for two terms a member of the city council of Aurora, Ill.; died at his home in that city, April 25, from heart disease, aged 72.

HOWARD LEWIS PRATT, M. D. Rush Medical College, 1878; a member of the Illinois State Medical Society and Fox River Valley Medical Association; a member of the staff of the Sherman and St. Joseph's hospitals, Elgin, Ill.; died at his home in that city, April 13, aged 64.

JAMES BURTON MCFATRICH, M. D. Bennett Medical College, Chicago, 1884; Hahnemann Medical College, Chicago, 1885; who was a high Masonic official, a former member of the Chicago Board of Education and proprietor of the medicine Murine; died at his home in Chicago, April 26, from heart disease, aged 52.

THOMAS CORWIN MCCAUGHEY, M. D. Rush Medical College, 1868; one of the most prominent practitioners of central Illinois; a Fellow of the American Medical Association; and once president of the Vermilion County (Ill.) Medical Society; a veteran of the Civil War; died at his home in Hoopeston, Ill., May 6, from heart disease, aged 73.

### Book Notices

THE READY REFERENCE HAND-BOOK OF DISEASES OF THE SKIN. By George Thomas Jackson, M. D., Professor of Dermatology in the College of Physicians and Surgeons, Medical Department of Columbia University, New York. Seventh edition, thoroughly revised. 12 mo, 770 pages, with 115 engravings and 6 colored plates. Cloth, \$3.00, net. Lea & Febiger, Philadelphia and New York, 1914.

Those of us who have used one of the earlier editions of this book are very glad to have this last edition. It is one of the most complete small volumes of which we know. We think the work deserves

the success which it has had, as indicated by the printing of seven editions. The book is especially valuable to the general practitioner. It is clear and concise in its presentation of the subject treated. Its illustrations and color plates are good. The author has the faculty of making his text exceptionally clear. The volume is one of the best helps in diagnosis of skin diseases we know.

**DISEASES OF THE HEART.** By John Cowan, D. Sc., M. D., F. R. F. P. S., Professor of Medicine, Anderson's College Medical School; Physician, Royal Infirmary; Lecturer in Clinical Medicine in the University of Glasgow; Examiner in Medicine, Royal Army Medical College. Octavo, 458 pages, with 199 illustrations. Cloth, \$4.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

A new book on Diseases of the Heart, by Dr. John Cowan, recalls to us the fact that much new work is being done in the study of that organ, and that during the last decade much has been added to our knowledge of diseases of the heart and arteries. The author in this new work attempts to present to the practitioner the result of these recent advances in knowledge and the bearing they have on diagnosis, prognosis and treatment. The illustrations are excellent and illumine the text to a marked degree. It is a valuable work for the practicing physician.

**THE HYPODERMIC SYRINGE.** By George L. Servoss, M. D., Editor Nevada Medicine. Member of the Nevada State Medical Association. Fellow of the American Medical Association. 317 pages. Cloth. Price, \$2.00. Physicians Drug News Co., Publishers, Newark, N. J.

The introductory chapter and the one following are written about the Hypodermic Syringe, and tell of the various models made during the evolution of the up-to-date Hypodermic Syringe of today.

The other chapters treat of hypodermic medication, giving the detail of the operation. A large portion of the book is given to the hypodermic use of the serums and bacterins. The book will be of interest and value to the profession.

**PSYCHANALYSIS: ITS THEORIES AND PRACTICAL APPLICATION.** By A. A. Brill, Ph. B., M. D., Chief of Clinic of Psychiatry and Clinical Assistant in Neurology, Columbia University Medical School; Chief of the Neurological Department of the Bronx Hospital and Dispensary. Second edition, thoroughly revised. Octavo of 393 pages. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$3.00 net.

The wave of Psychotherapy that is sweeping the medical world and to a less degree is getting a hold on the laity, through the teachers and instructors of educational institutions, makes it incumbent upon the doctor to know more about this branch of medicine. The author has tried to encompass in this single volume a working basis for the doctor, which in a briefer way treats especially upon "Freud's Theories" and the analysis of dreams.

**CLINICAL HEMATOLOGY: AN INTRODUCTION TO THE CLINICAL STUDY OF THE SO-CALLED BLOOD DISEASES AND OF ALLIED DISORDERS.** By Gordon R. Ward, M. D., Fellow of the Royal Society of Medicine, Medical Society of London, etc. Octavo of 394 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$3.50 net.

This book, by Gordon R. Ward, M. D., is principally concerned with those so-called blood diseases and the classification of blood diseases.

In years past the pathology of tissues has been much studied, but in these studies the blood has escaped the attention which it deserved. At the present time, when so much attention is directed to Sera Therapeutics, of infectious conditions, a thorough study of the blood is called for more than ever.

The clinical picture of the blood in the various conditions is given, together with the general symptomatology and treatment.

We think the volume will be a useful addition to the doctor's library.

**THE CLINICS OF JOHN B. MURPHY, M. D.,** at Mercy Hospital, Chicago. Volume III. Number II. Octavo of 213 pages, 55 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Published Bi-Monthly. Price, per year: Paper, \$8.00; Cloth, \$12.00.

The second number of Volume III. of Murphy's Clinics is prefaced with a chapter on "The Examinations and Analyses of Cases," which all doctors should read—all doctors, whether they be internists or surgeons. Other subjects treated are:

- Empyema.
- Abderhalden's Test in Tubal Pregnancy.
- Ectopic Testis.
- Chololithiasis.
- Acute Pancreatic Cyst.
- Duodenal Ulcer.
- Goitre.
- Tuberculosis of Kidney.
- Versical Papillomata.
- Amputation Neuroma with Ascending Neuritis.
- Neuroma of the Vulnar Nerve.
- Internal Hemorrhoids.

These numbers are always full of interest, and this one is no exception.

**MODERN SURGERY: GENERAL AND OPERATIVE.** By J. Chalmers, Da Costa, M. D., Samuel D. Gross Professor of Surgery, Jefferson Medical College, Philadelphia, Pa. Seventh edition, revised, enlarged and reset. Octavo of 1,515 pages, with 1,085 illustrations, some of them in colors. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$6.00, net; half morocco, \$7.50, net.

The profession will be glad to have this new edition of DaCosta's Surgery. The popularity of the author and his book is shown conclusively by the fact that the seventh edition is called for. The work contains an enormous amount of material. The subjects treated, it would seem, cover every condition known to surgery, and containing, as it does, 1,085 illustra-



tions, makes it one of the complete monographs of surgery.

To get all of this matter into one volume, it has been necessary to use a light-weight paper, a rather small type, and allow no waste space. The various subjects are, as a rule, treated briefly but to the point, and no words are wasted. The diagnosis of surgical conditions are well treated.

It is an excellent work, and will maintain the popularity of the former editions.

**SOME AMERICAN MEDICAL BOTANISTS, COMMEMORATED IN OUR BOTANICAL NOMENCLATURE.** By Howard A. Kelly, M. D., LL. D. Delivered at a lecture before the Medical Historical Society of Chicago, 1910, and before the University of Nebraska, October 16, 1913. Troy, N. Y. The Southworth Company, publishers, 1914.

Another of the pleasure books for the doctor. In giving something of the history or biography of the American Medical Botanists Dr. Kelly has given us a story, in several chapters, of the pioneer medicine of America, and it is as interesting as any love story found on the book shelves—in fact, it is very much of a love story, detailing very minutely the love of the olden doctor for his botanical garden.

The chapters tell, too, of the pioneer medical man's love of adventure, for many of them traveled far "into the wilds and among the savages" to procure their plants, seeds, and specimens, and at times they dared not go on expeditions planned because of Indian outbreaks.

The book itself is as pretty as some of the flowers it pictures, and is really an edition de luxe with its sepia illustrations printed on cameo paper.

**SURGERY; ITS PRINCIPLES AND PRACTICE. FOR STUDENTS AND PRACTITIONERS.** By Astley Paston Cooper Ashhurst, A. B., M. D., F. A. C. S., Instructor in Surgery in the University of Pennsylvania; Associate Surgeon to the Episcopal Hospital; Assistant Surgeon to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases. Handsome large octavo, 1,141 pages, with 7 colored plates and 1,032 illustrations, mostly original, in the text. Cloth, \$6.00, net. Lea & Febiger, publishers, Philadelphia and New York, 1914.

Ashhurst's Text Book of Surgery is, we think, the best monograph on the subject we have seen. It treats of a vast number of subjects; is clear and concise. The book is remarkably well illustrated. The chapters on bone surgery are especially to be noted. In this the skiagraph plays an important role.

Genito-Urinary Surgery and Gynecology are well represented in the work, and Orthopedic Surgery claims a generous share of the pages. In all, it is an extremely useful volume.

**A HISTORY OF LARYNGOLOGY AND RHINOLOGY.** By Jonathan Wright, M. D., Director of the Department of Laboratories, New York Post-Graduate Medical School and Hospital. Second Edition, Revised and Enlarged. Octavo, 357 pages, illustrated. Cloth, \$4.00, net. Lea & Febiger, Philadelphia and New York, 1914.

Another book of which there are too few—written for the pleasure and recreation of the doctor—dealing with the ancient as well as the modern, and bringing to the modern man the various diagnosis and treatment of the ancients, so far as applied to Laryngology and Rhinology.

It seems, according to this text, that man had trouble with his nose at least as early as 3500 B. C. We are glad that a new system of therapy has come since then, for we fear the Council on Pharmacy could never recommend some of their prescriptions. Any one possessing this book will have many hours of pleasure in its reading.

### BOOKS RECEIVED

**ANNUAL REPORTS OF THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION.** Volume 6. January-December, 1913. Laboratory Staff: W. A. Puckner, Phar. D., Director, Secretary, Council on Pharmacy and Chemistry, A. M. A. W. S. Hilpert, Ph. D., L. E. Warren, Ph. C., B. S., P. N. Leech, Ph. D. Press of American Medical Association, 535 North Dearborn Street, Chicago. Price, 25 cents.

To fight the existing flies, screen your doors and windows, use sticky papers, traps and keep dishes of the following solution—fly poison—about the house:

Milk .....	1 teacupful
Water .....	1 teacupful
Formaldehyd .....	1 tablespoonful
Bluing (ordinary) .....	.5 drops

Mix and pour some of this solution in saucer on which a 1-inch cube of bread has been placed, always keeping surplus of liquid in saucer. The bluing is added to give a color which will deter adults from drinking the solution. Keep out of reach of children.

### MOSQUITO DANGERS

Mosquitoes spread malaria. Kerosene applied to the surface of swamps, pools, cisterns, rain barrels or other quiet waters where "wigglers" are found will effectively eliminate mosquitoes.—*From Bulletin Chicago School of Sanitary Instruction.*

The least desirable citizen is the habitually dirty citizen. For such the ducking stool should be revived.

Have you ever been impressed with the fact that in the suppression of a plague, the first thing done—the all-important thing—is to clean up?

A clean city is a plagueless city.

Healthy is as cleanly does.

Cleanliness begins at home.

Sequence and consequence:—

Dirt.  
Disease.  
Death.

Before Gov Dunne - in 1913 - stopped the infamous traffic

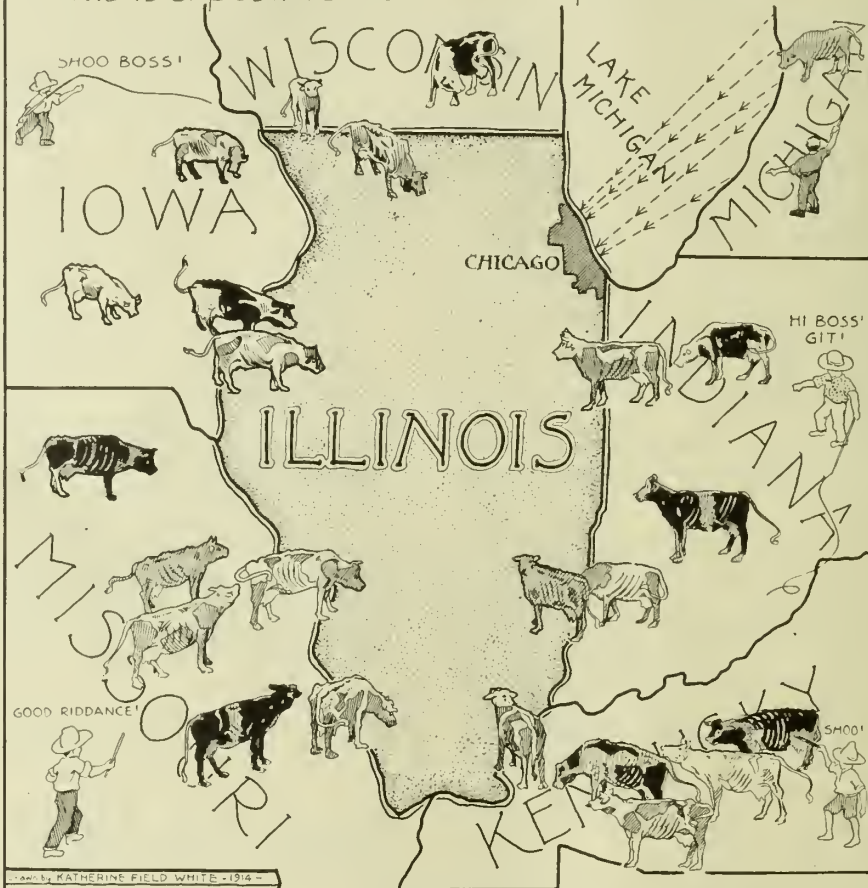
## ILLINOIS WAS THE DUMPING GROUND FOR TUBERCULAR COWS

All surrounding states had tuberculin test laws - Illinois has none

**U**nprincipled dealers bought tubercular cows in other states and sold them in Illinois

THOUSANDS OF TUBERCULAR COWS IN ILLINOIS NOW are producing milk for Illinois consumers

This is a positive menace to the public health



**PUBLIC  
SAFETY  
DEMANDS**

that Illinois shall have  
a tuberculin test law. We  
need it more than ever before.

Chicago Health Department - Educational Poster No 219

Designed by Dr. C. H. Clair Drake









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